



The Ten Lean Years

From the Mechanized Force (1930) To the Armored Force (1940)

by Major General Robert W. Grow, USA, Retired

(Ed. Note: This remarkable and enlightening manuscript has only recently come to ARMOR Magazine. It is full of facts, the personal observations of a very astute officer, and generally heretofore unknown or limited information, and it deserves the widest possible dissemination to the Armor Force. General Grow passed away in November, 1985.

ARMOR Magazine will present "The Ten Lean Years" in serial format over the next four issues. We strongly suggest that our readers keep all pertinent issues readily at hand for future reference on the very turbulent decade from 1930 to

1940, when the major doctrinal changes regarding mechanization came first into being and then into effect, eliminated the horse as a cavalry mount, and introduced the armored, tracked vehicle into the Army's arsenal.

This is history, first person in the vernacular of the participant; it is armor history from the beginning, when world events and the vision of a few dedicated officers laid the foundations of the U.S. Army Armor Force as we know it today.

The staff of ARMOR Magazine is proud to present THE TEN LEAN YEARS.)

Throughout the decade from 1930 to 1940, it was my good fortune to serve in positions that called upon me to play a considerable role in the development of mechanization; its application to cavalry; its acceptance, as well as lack of acceptance, by the Cavalry Branch; and the eventual development of a separate Armored Force. My personal diary, recording both events and my reactions and hopes; many official directives and reports; as well as press clippings in my possession, are my sources for the following account of the creation of the Armored Force.

This account is an attempt to piece together the history of the

period as I saw it at the time. I quote liberally from both documents and diary. From my relatively junior position, I doubtlessly failed to understand or correctly interpret many actions or expressions of my superiors. However, my close personal contact and friendship with Generals Van Voorhis, Chaffee, Henry, Kromer, and Herr, as well as countless junior officers with whom I worked, gave me an unusual opportunity to observe, as well as to take part in, the evolution that took place during the decade of the Thirties. The reader should remember that the Army was very small at this time and that the great majority of officers — certainly those in field grade — were personally acquainted with each other and, especially within each branch, were on a first-name basis.

Contradictions appear in the following pages. These reflect changes in thinking as development progressed. The reader should bear in mind that quotations represent my understanding or thought at the time and not in retrospect. If I have misquoted or misinterpreted any action or statement of others, I can only offer my humble apologies. This is the way it appeared to me at the time.

The decade of the Thirties comprised "ten lean years" for the military establishment, as well as a period of economic depression for the country. It was also the critical decade for Cavalry more than for any other branch. The long history of the soldier on horseback was coming to an end. Among cavalry officers there emerged two schools. One hung tenaciously to the dying hope that somehow, some way, the horse would prove indispensable to the Army. The other school — for the most part younger officers, believing firmly in the value of the mounted soldier — sought eagerly for a replacement for the horse. In spite of the success of Sir Edmund Allenby's Egyptian Expeditionary Force in Palestine in 1917 and 1918, World War I had proven conclusively that "there are no foxholes for horses," and that horse units could operate, at best, only on the fringe of battle and in an ever-diminishing role.

The divergence of opinion within the Cavalry Branch brought clearly into focus the true meaning of the term "cavalry". Whereas the older, more reactionary group held firmly

to the definition (supported by *Webster's Dictionary*) that cavalry was that branch of service whose soldiers fought on *horseback*, the younger and more far-sighted faction held that cavalry was that branch of service whose soldiers fought *mounted*. The latter were concerned only that the mount enable the soldier to employ his weapons effectively in battle. To these officers, the distinction between infantry and cavalry was that the former fights on foot and the latter fights mounted. This distinction is basic and fundamental. The distinction does not, nor did it ever, imply that Cavalry could not (or should not) often fight dismounted. Simply put, the far-sighted officers felt that a significant portion of the Army should consist of troops organized, trained, and equipped to fight mounted whenever the situation permitted.

Following World War I, the Army settled back, having been reduced first to 280,000 and then to 125,000 men. The Cavalry School and the 14 cavalry regiments, far from any battlefield, resumed the posture of the days of Pancho Villa and General Pershing's Punitive Expedition into Mexico in 1916. A few trucks and some scout cars were added to their organization, although they still maintained mule-drawn trains. Allenby's brilliant campaigns in the Middle East had "proved", to the believers, that horse cavalry was still in effective force. The infantry had a few tanks but these were recognized as an asset to the dismounted soldier confronted by machine guns. George Patton, who commanded our tanks that took part in the fighting of World War I, remained with the Tank Corps at Fort Meade, Maryland, until it was disbanded in 1920 and the tanks were assigned to the Infantry Branch. He maintained his strong interest in tanks and kept himself well-informed of progress overseas, but largely through personality clashes he was shifted about and did not take a significant part in cavalry mechanization. I met him on numerous occasions and was impressed by his wide knowledge, but I never became aware of any influence that he exerted on the development of mechanization in the Army until the Armored Force was formed. Then, as a protégé of General Marshall, he quickly came to the front. Later,

under his command, I learned to admire and respect him as a great tactician and, in my opinion, the greatest fighting leader of World War II.

During the Twenties, a few far-sighted officers in the War Department were venturing opinions that the Army must take advantage of the progress being made in the automotive industry. They felt that foreign armies were devoting more than just thought to mechanization. Lack of funds precluded extensive procurement, however, and the absence of a real research program handicapped development. In Rahway, New Jersey, J. Walter

"...Foreign armies were devoting more than just thought to mechanization..."

Christie was working on a convertible tank, but the Ordnance Department gave him no encouragement while they puttered around making some improvements on the French Renault and designing something of their own.

The Mechanized Force is Born

Enough interest had developed by 1930, principally at Fort Meade where some limited tank and motorized training was conducted, to induce General Summerall, in his last year as Chief of Staff, to take positive steps toward the development of a mechanized force. In the belief that a mechanized unit, designed for mounted combat, would naturally assume a cavalry role, he visited Fort Brown, Texas, the home of the 12th Cavalry, and selected its commander, Colonel Daniel Van Voorhis, to head a provisional force made up from detachments from all arms and services. As the operations officer of the 12th Cavalry at the time, I eagerly accepted the opportunity to accompany Colonel Van Voorhis in the same capacity in this new but promising field. I thus became closely involved with mechanization for the next twenty years. The troops were assembled at Camp Eustis, Virginia, in the fall of 1930.

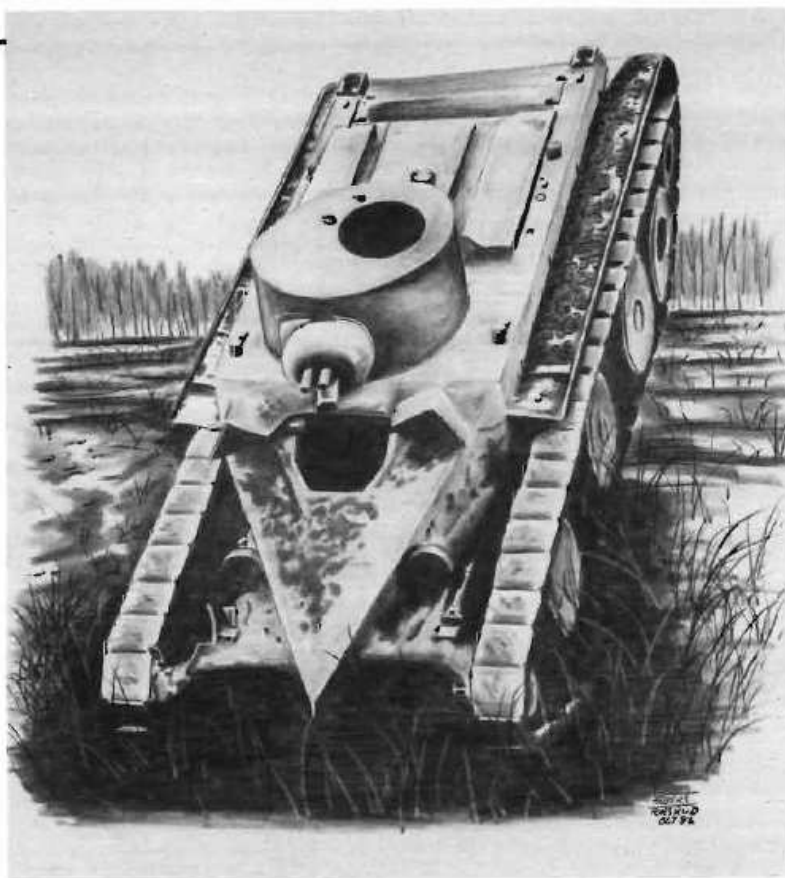
It would have been difficult for General Summerall to have selected a man with less knowledge of mechanics than Colonel Van Voorhis. On the other hand, he could have selected no one with a clearer insight into the need to develop a better cavalry "horse" and yet retain the principles of mounted combat. My mechanical knowledge was equally limited, but I had acquired at Fort Riley, where I served for five years, a profound conviction that a soldier who fights mounted can defeat one who fights dismounted, provided his mount affords a good base of fire and can maneuver effectively on the battlefield. We agreed from the beginning that our mission was to give the mounted soldier a decisive role in battle. As Adna Chafee was to remark later, "The mission of cavalry is to fight."

The Mechanized Force at Eustis was not cavalry. Although the commander and the S3 were cavalrymen, and the armored car troop was a cavalry unit, the Force was a composite group of all arms and services. The executive officer, Jimmy Brett, was an infantry tank-er whose battle experience had been with the World War I Tank Corps under George Patton. The tiny Renault tanks maneuvered at a foot pace. In the first demonstration given to orient Van Voorhis and me, Brett led the attack on foot with colored signal flags.

From this demonstration, we made our first basic decisions: all equipment must be capable of high battlefield — as well as road — mobility and, most importantly, leaders must learn to think and to command while mounted. Neither of these aims were satisfactorily accomplished during the twelve months that the Mechanized Force existed, although much progress was made under difficult conditions. Ordnance made some improvements in the old tanks, but the real impetus to modernization was given by Mr. Christie. Delayed by lack of funds and professional jealousy, seven tanks were finally procured during 1931.

Mechanization Approved — In Theory

By late spring, 1931, enough progress had been made for the War Department to accept the concept of mechanization for the entire



Four of J. Walter Christie's tanks arrived at Camp Knox with the Detachment for Mechanized Cavalry Regiment in early 1931.

Army. The Chief of Staff, General MacArthur, announced the policy that all arms and services would adapt motorization and mechanization to their traditional roles. The Mechanized Force was to disband in the fall and its elements to return to their basic assignments. Since it was apparent that the Cavalry Branch would be the chief beneficiary of the more mobile mechanized equipment and since the Chief of Cavalry was willing and anxious to develop it, Colonel Van Voorhis with the nucleus of his headquarters and the armored car troop, plus the engineer, ordnance, and quartermaster units, were transferred to a new cavalry post — Camp Knox, Kentucky. There they were redesignated as the "Detachment for Mechanized Cavalry Regiment." The Detachment included four of Christie's new tanks.

In the meantime, the press reported on 11 January 1931:

Announcement of the training program of the experimental Mechanized Force at Fort Eustis, Va., for the purpose of studying the mission

in war of the mechanized units of the Army, has been made by the War Department. During the period Jan. 1 to June 30 the new force... will participate in 10 field exercises and marches... The primary mission of the Mechanized Force, as laid down by the War Department, is to provide a powerful weapon of high tactical and strategic mobility, high hitting power, high mobile defensive power, limited holding power, capable of independent action... Several European nations, especially Great Britain, have created independent organizations composed of these mechanized weapons and designed to take the place formerly allotted to Cavalry of dealing quick hard-hitting blows away from base. For the first time, the United States Army has collected the many mechanized features now serving as auxiliaries and has formed an experimental mechanized force which will operate as a unit.

It seems ironical that such a sound doctrine, developed in the War Department in late 1930 and announced in January 1931, should require almost ten years to be implemented in the Armored Force of

1940. The "ten lean years" were beset with acrimonious debate between horse and machine advocates, including General Staff officers; extreme budgetary limitations; failure of the supply services to encourage and use fully the United States' vast industrial potential; and the failure of the War Department to follow up the far-sighted policy announced in January 1931.

The Role of the Chief of Cavalry

War Department organization in the Thirties included an element under the General Staff called "Chiefs of Arms and Services." The chiefs of combat arms, among whom was the Chief of Cavalry, were limited in command authority to their respective service schools and boards but had the responsibility for the development of organization, training, and equipment recommendations. Thus, to the Chief of Cavalry at Fort Riley, Kansas, fell the highly important responsibility of recommending the manner and means to develop mechanization in his arm. Throughout the decade of the Thirties, the progress of mechanization within the Cavalry Branch was largely dependent upon the desires of the Chief of Cavalry.

In 1931, Major General Guy V. Henry was the Chief of Cavalry. He welcomed the opportunity to mechanize and supported the mechanization of one horse regiment and later of a second regiment and a brigade headquarters. However, beset by serious opposition to the conversion of horse units by horsemen of his own branch and even by Congressmen, and by extremely limited funds for either development or procurement, and by the reluctance of the Ordnance Department to accept ideas from the automotive industry, General Henry made relatively slow progress in mechanizing the Cavalry Branch. The slow pace of mechanization within the Cavalry Branch tended to confirm the belief of both Van Voorhis and Adna Chaffee that mechanization could not succeed under cavalry sponsorship and that it develop as a separate agency or arm under the War Department. Although their feelings were not openly expressed, there existed a certain coolness between them and General Henry. At

Fort Knox, a lack of full confidence in the Chief of Cavalry at Fort Riley persisted throughout the ten-year period. In my opinion, General Henry was mechanized-minded and did as well as could be hoped under the conditions that existed during his tour as Chief of Cavalry and later during his tenures as the Commanding General of Fort Knox and as Commandant of the Command and General Staff School at Fort Riley.

In 1934, Major General Leon B. Kromer was appointed Chief of Cavalry and encountered the same difficulties as his predecessor. Some progress came in the development of the 7th Cavalry Brigade (Mechanized) and in the attitude of a large number of cavalry officers. In 1936, during General Kromer's tour, the project for a mechanized cavalry division, which originated in the Chief's office, was first brought forth. If nothing else was accomplished during his tenure, this project was a major step in getting both cavalry and the War Department to think big. Changes in officer assignments, however, as well as continuing outright opposition, prevented any major development during General Kromer's tour.

In March 1938, Major General John K. Herr succeeded Kromer as Chief of Cavalry. He came from command of the 7th Cavalry at Fort Bliss, Texas. He remained fully committed to the retention of all horse units, although he accepted mechanized cavalry as a significant element of the arm and urged its development and expansion, as long as no horse units were sacrificed. Since expansion without conversion was impossible within budgetary limitations, he effectively blocked the development of mechanized cavalry on the scale demanded by conditions in Europe.

My firm belief is that had General Herr, from the beginning, taken a strong stand for the mechanization of the Cavalry Branch, the Armored Force would never have been created. The General Staff, certain that a mechanized force was necessary, was ready to support the Chief of Cavalry. The General Staff had nowhere else to turn. General Lynch, Chief of Infantry, did not want any "panzer" divisions, although some other infantry officers did. As late as 25

May 1940, when I left the Chief's office, I still believed that the new mechanized force might be brought into being under the Cavalry banner, since Herr was weakening and promised me that he would recommend some conversions. I was wrong. Generals Van Voorhis, Chaffee, and others, discouraged by the attitude of Herr, prepared for the break which had to come, and in June 1940, the Armored Force was born. It was still cavalry, except in name, although to the public and "officially" it was a new arm (or rather "force" since only Congress could create an arm). It was, however, controlled by its own chief. The last Chief of Cavalry had lost it all.

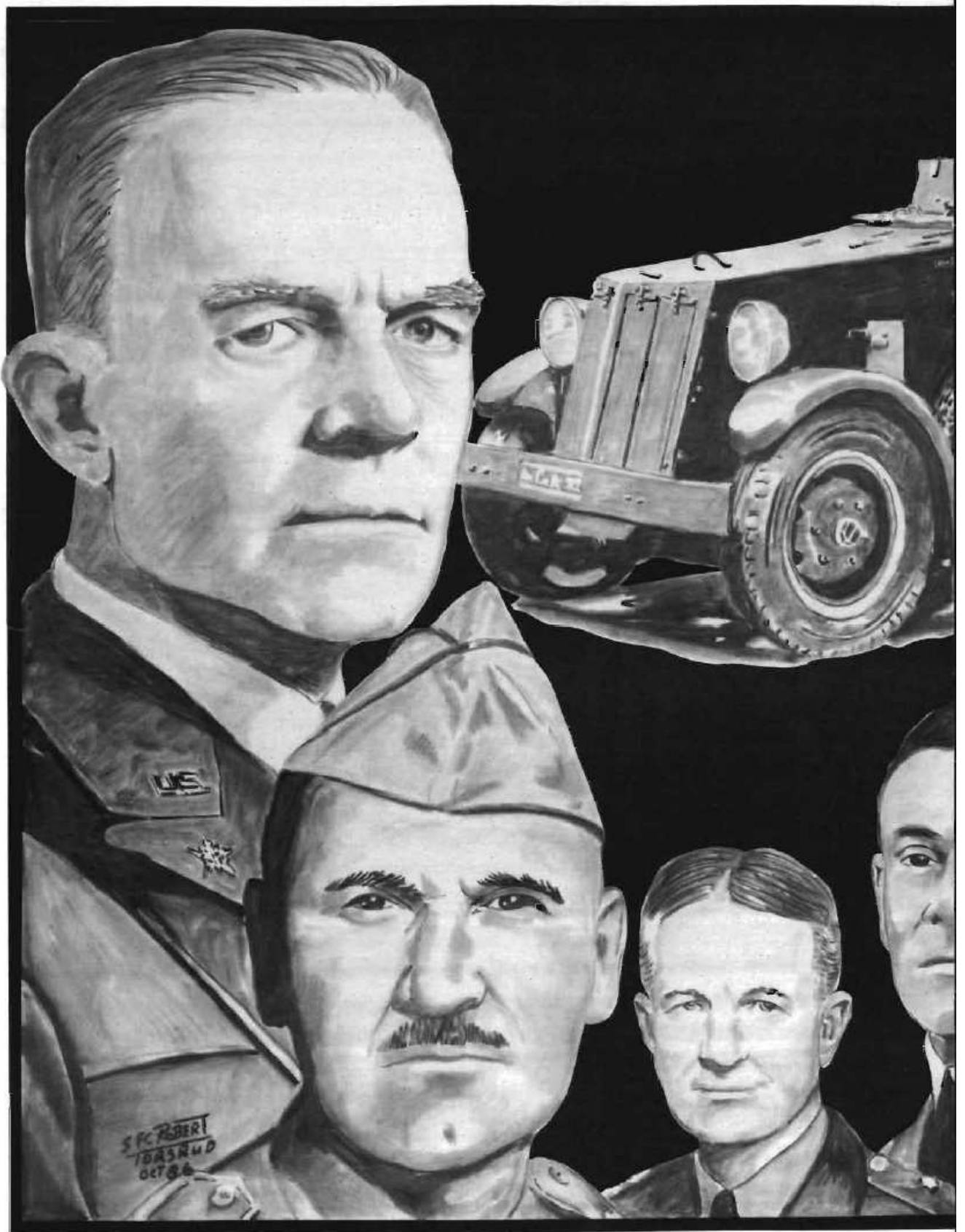
The Mechanized Force, 1930-1931

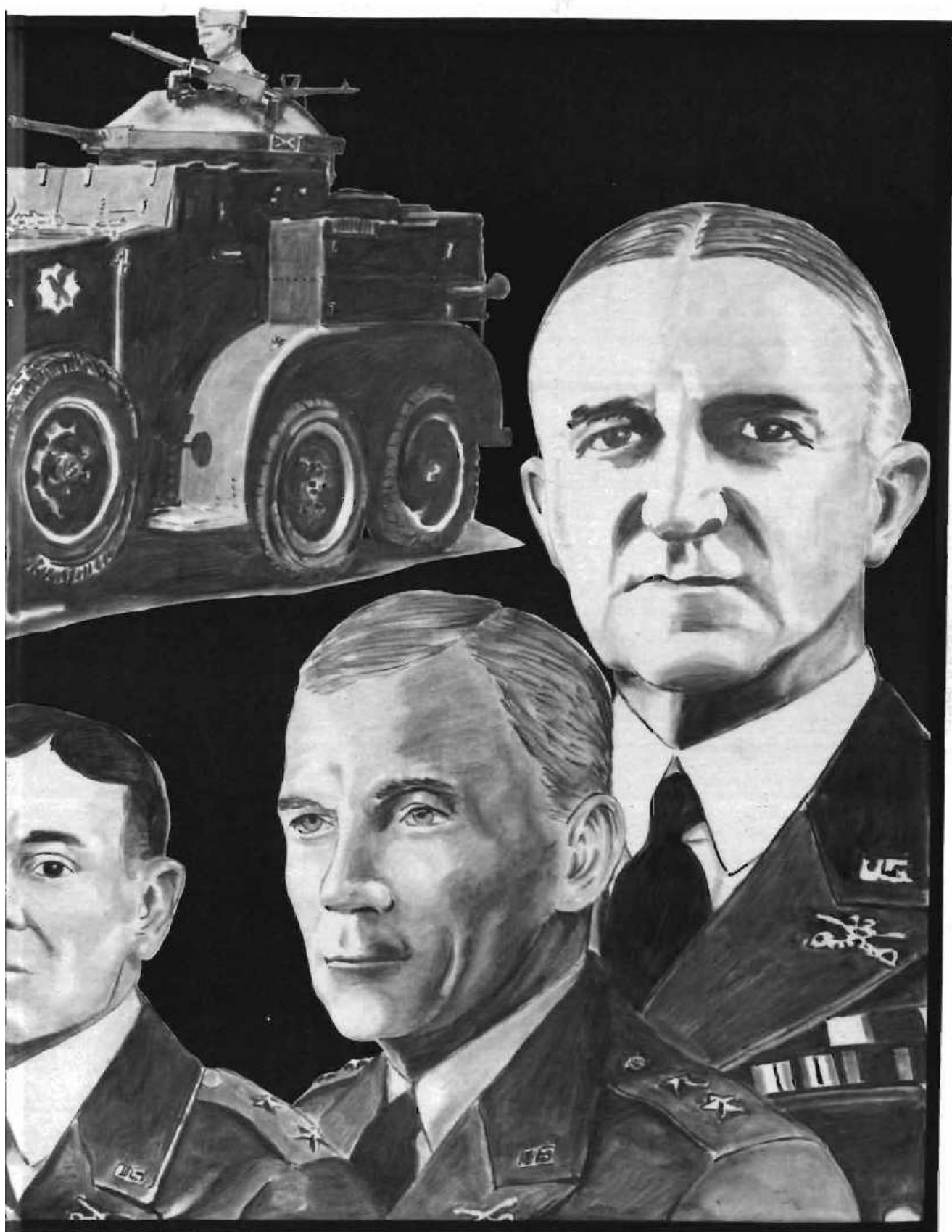
Given this brief historical outline of the evolution of the Armored Force, we will once again turn back the clock to the year 1930 and the birth of the Mechanized Force. The intentions of the War Department with respect to a role for the Mechanized Force were expressed in a letter from the Adjutant General, dated 3 November 1930, which stated in part:

It has been organized on the theory that modern tanks, through their armament, speed, marching radius and mechanical reliability, are now capable of extended maneuver beyond the immediate support of divisional infantry, and may be so employed. It is believed that its principal role will be the execution of those tactical missions presenting an opportunity for a force capable of tactical and strategical mobility and quick, hard-hitting striking power. In connection with troops of other arms, it should be assigned missions which call for the display of the above qualities,

The series of portraits on the following center-spread are from left, COL Adna R. Chaffee, MAJ Robert W. Grow, MG Guy V. Henry, MG John K. Herr, MG Leon B. Kromer, and COL Daniel Van Voorhis.

Story continues on page 28





"...For the time being, the future of mechanization in the Army was tied to the Cavalry branch..."

such as the seizing and temporary holding of distant key positions; attacks involving turning and enveloping movements; counterattack, wherein the elements of success are speed, surprise and decisive direction; missions such as advance, flank or rear guard; missions in the breakthrough, and exploitations. *The ability to crush its way forward over highly organized ground in the face of stabilized resistance is secondary* [emphasis added]. Its employment in no wise diminishes the role of infantry tanks.

This was a clear-cut cavalry role, as cavalry was taught at Fort Riley following World War I. Unfortunately, it was not accepted by the "horsemen," either in Washington or in the field.

The Mechanized Force consisted of the following elements, some of which did not reach Camp Eustis until early in 1931:

- Headquarters and Headquarters Company
- Antiaircraft Detachment (1st Plt, Btry E, 69th CAC)
- Armored Car Troop (Trp A, 2d AC Sqdn)
- FA Battery (Btry A, 6th FA, portee)
- Chemical Section (Det, 1st Chem Regt)
- Engineer Company (Co C, 13th Engr)
- Machine Gun Company (Co H, 34th Inf)
- Ordnance Company (19th Ord Co)
- Motor Repair Section (28th Motor Repair Sect, QMC)
- Tank Company (Co A, 1st Tk Regt)

During the winter and spring of 1930-1931, we held a continuing series of marches, command post exercises (CPXs), field exercises, ceremonies, and demonstrations. The individual units were well-trained so that our problem, according to my notes, was basically twofold: "...to develop a combined tactical team, and to determine appropriate organization and equipment." The lessons learned from each exercise were assembled during the spring of 1931 and tables

of organization and equipment (TO&E) prepared for a mechanized brigade of 190 officers and 2,900 men with 845 vehicles of which 420 were in the combat echelon. The combat echelon included 230 tanks, 50 self-propelled guns and mortars, 90 halftracks, 19 armored cars, plus engineer and anti-aircraft vehicles on tank chassis.

The Christie tank was accepted in March (cost: \$54,000) and set up for field tests. It reached Camp Eustis in April and was shown to the Ordnance Advisory Committee, where it performed very well. At this time Major General Van Horn Moseley, Deputy Chief of Staff, told the Committee that the future of mechanization lay along the lines of an auxiliary to the established functions of the line, rather than as a separate entity for battle maneuver.

Notes from my diary indicate some of our thinking in January 1931:

We must stop talking miles and use minutes.

Engineers must have cross-country vehicles. Small obstacles delay this Force. Light power machinery will help.

The biggest anti-aircraft job is to cover defiles. Each vehicle needs an anti-aircraft weapon. The anti-aircraft battery should be dispersed in the march column.

We must have uniform signals throughout the Force.

_____ thinks 'follow the leader' principle will not work. Don't think he understands Cavalry.

S-3 must have accurate maps with time-distance of each element.

Talked over medical detachment with S-4. Casualty collecting end is the most difficult.

_____ thinks cal .50 a fine weapon. Will try it shooting at tanks. Wonder if 25-lb bomb will do them much damage.

These quotations indicate the scope and variety of problems that were under consideration at that time.

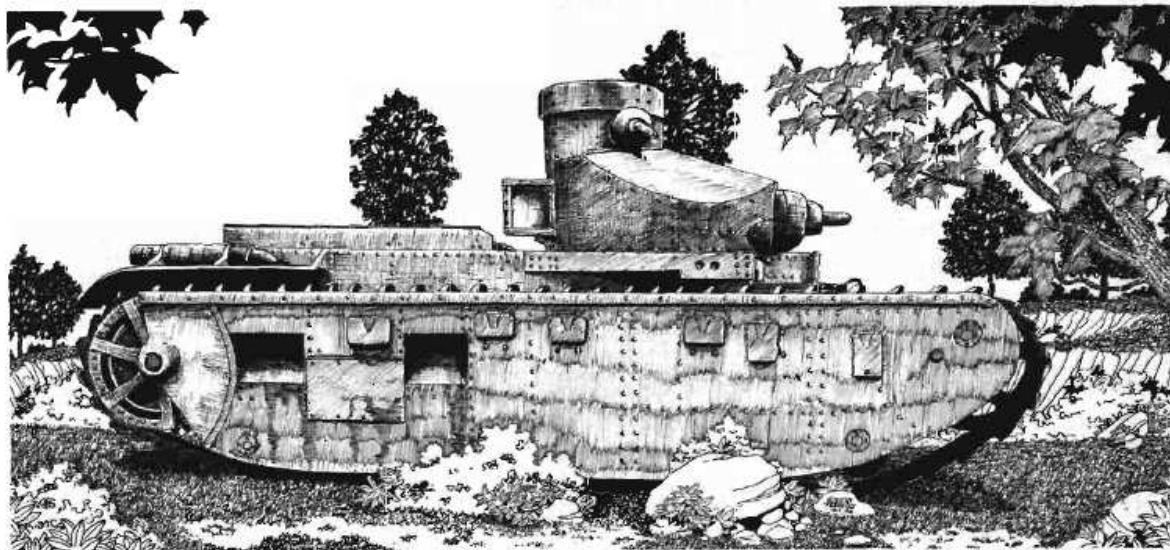
Following the first long march — Camp Eustis to Fort Bragg, North Carolina, where we held two demonstrations (Fort Bragg was then a

field artillery post) — I noted that the new T1E1 tank did well. The field artillery officers were convinced that we needed close, fast gun support. Meanwhile, decisions were being made in Washington which would affect the future of mechanization within the Army.

Cavalry Branch Given Propensity Over Mechanization

In May, Van Voorhis took the TO&E for a mechanized brigade to Washington. We had little hope of its acceptance, since we were aware of the tentative plan to put the Force under the Chief of Cavalry as a mechanized cavalry regiment with artillery and maintenance attached. Although rumors filled the air and kept us confused, we continued to carry out our training schedule, including small arms range practice. By the end of May, the decision came and our hopes for a strong independent mechanized brigade of all arms and services were dashed. In a letter to a friend, I described my feelings, which were torn between branch loyalty and what we considered the best interests of the Army:

In regard to mechanization, we did our best to keep it out of the Cavalry, both for the good of cavalry and mechanization, but there are good arguments for the proposition as finally adopted...I think the idea will be welcomed by a large proportion of cavalry officers who have seen the handwriting for some time. Of course it was a choice of a cut in Cavalry in either case and, in this way, the cut really occurs only in the horse element. We do not know yet which cavalry regiment will be mechanized or where our station will be...There is no doubt but that the employment of a mechanized force and cavalry are so similar that only a physical inspection to see whether a command had wheels or horses could tell the difference...The development in the next few years will be revolutionary to our Arm, but I have no doubt that the Cavalry will handle the situation well, for we have the most important characteristic, built up through



The T1E1 tank performed well in the experiments of the early 1930s.

the centuries and which no other Arm possesses, i.e., mental mobility...We have found that the most important element to date.

For the time being anyway, the future of mechanization in the Army was tied to the Cavalry Branch.

The Chief of Cavalry, Guy V. Henry, now became deeply interested in the developments at Eustis. With his executive officer, Colonel Oliver, he accompanied the Force on a march to Camp Lee and a field exercise there in mid-June 1931. My comments after our return, taken from my diary:

Tea for Henry at Van Voorhis quarters at 1600. Nothing new came up. Henry rather lukewarm on Knox. Oliver favors it. Henry seems rather imbued with the magnitude of the thing, since he has seen it and I think wants to get away by himself where he can digest it. He saw everything: good weather and bad, good road and mud, a real snappy attack with delay caused by carriers (tank transporters), and he saw some good driving and maintenance. The radio was poor the first day and excellent the second. We couldn't have asked for more. Oliver is much impressed and I think we will get sympathetic treatment.

General Henry's attitude was shown by his memo to Moseley on 3 July 1931 by which he transmitted a proposed TO&E for a mechanized cavalry regiment:

All tables are only tentative...I can assure you that as soon as the matter is definitely approved and

turned over to the Cavalry, no stone will be left unturned to make it a success.

Despite his good intentions, General Henry was to have mixed results in getting the Cavalry Branch to accept mechanization during his tenure as Chief of Cavalry.

Lieutenant Colonel Adna Chaffee joined the Force in July and Jimmy Brett left on 1 September.

Our training program continued through the summer and fall, although we knew that the Force was to be broken up soon. The *Army-Navy Journal* carried this comment on 1 August:

What is hoped for in organizing the cavalry regiment (mechanized) is that the unit will be able to demonstrate that it can perform the functions and normal duties of a



A Christie tank is recovered during a field problem at Camp Knox, KY, in the early 1930s.

cavalry regiment in warfare, nothing more, nor for the time being, nothing less, if it is to be considered a success.

I commented that "this sounds like Moseley" and added that the decision was a "blow for Van Voorhis who has worked so hard for a real independent Mechanized Force."

Mechanized Force Disbanded

By September, the decision to base the mechanized cavalry regiment at Knox had been made, but we were finding difficulties in salvaging motor equipment from the Force to take there. On 18 September, my diary relates:

Van Voorhis and Chaffee were told by Moseley that cavalry mechanization would be one regiment only, to be selected and sent to Knox this winter (1931-32). [Actually the 1st Cavalry did not get to Knox until a year later.] We take no track-laying equipment from Eustis.

The Christies were shipped by rail. We were to leave Eustis about 1 November with Headquarters, Armored Car Troop, and the Ordnance Company. The Quartermaster Detachment and the Signal Corps Detachment would come along for post duties and the Engineer Company would go to Knox for awhile to work on buildings and post facilities. The Tank Company and the Machinegun Company would return to their parent infantry units and the Field Artillery Battery, Antiaircraft Detachment, and Chemical Detachment would return to their former stations. From a practical standpoint, this was the end of the Mechanized Force.

The breakup started in October, 1931. Men who wished to stay with the unit were transferred into the Detachment. Troops and equipment to go to Knox were inspected and passed in review on 24 October. On the 26th of October, the Field Artillery Battery left for Fort Hoyle and the Tank Company for Fort Meade. Van Voorhis was much affected, especially by the loss of the tanks.

As viewed from Force Headquarters and expressed in our "Consolidated Report of Operations," our conclusions were:

- a. That a mechanized force is a powerful instrument in the execution of the mobile missions of war.
- b. That a mechanized force, if

properly organized and equipped, can accomplish the missions set forth in the War Department directive of 3 November 1930.

c. That experience has shown that the present Mechanized Force is not suitably organized, equipped, or of sufficient strength.

d. That experience has shown that all elements of the present Force are essential to a mechanized force, and should form integral parts thereof, to assure the development of that peculiar technique of training and of the control which is essential to the full development of the powers of the Force.

Our final recommendation was:

e. That a mechanized brigade, organized as shown in the attached

tables, be organized on the present Mechanized Force as a nucleus with a definite project of completion in personnel and equipment in a fixed period of time, and that the force be stationed at a location providing suitable terrain and housing.

The final recommendation was not adopted, however, and the Mechanized Force ceased to exist at midnight on 31 October 1931.

In retrospect, we can now say that in spite of equipment that varied from obsolete tanks to passenger cars framed in boiler plate, to commercial trucks, we had been able to develop tactical doctrine which, in large measure, withstood the test of World War II.

MAJOR GENERAL ROBERT W. GROW, whose career began as a horse cavalryman, became one of the pioneers in the mechanization of the U.S. Army. He was the first S3 of the Mechanized Force under Chaffee and Van Voorhis in the early 1930s and later commanded the 6th Armored Division in the European Theater during WWII. He retired as a major general in 1953 after serving as military attache in Moscow during the postwar years. General Grow died in November, 1985.



Two editors who are not members of the **ARMOR** staff made major contributions in preparing the "Ten Lean Years" manuscript for publication:

CAPTAIN PETER R. MANSOOR was commissioned in Armor from West Point in 1982, the top cadet in his class. He was also an honor graduate of the Infantry Mortar Platoon Course and the Armor Officer Basic Course, and is also a graduate of the Airborne course at Fort Benning, GA. He served as a tank platoon leader with D Company, 3d ACR, as cavalry platoon leader in A Troop, XO of D Company, and as S3 of that unit. He recently attended the Armor Officer Advanced Course and is now assigned to the 11th ACR.

KATHY CAST GARTH earned a BA in English at Old Dominion University in 1981, later working for a newspaper and an advertising agency in the Fort Hood area. She is currently residing in Radcliff, KY, while her husband attends the Armor Officer Advanced Course.

(Ed. Note: This is the second part of a four-part serial on the evolution of mechanization within the United States Army.)



The Ten Lean Years

From the Mechanized Force (1930) To the Armored Force (1940)

by Major General Robert W. Grow, USA, Retired

(Part 2 of 4)

On 1 November 1931, at Fort Eustis, Virginia, a unit designated as "Detachment for Mechanized Cavalry Regiment" was organized out of portions of the disbanded Mechanized Force. It consisted of the Headquarters and Headquarters Detachment and the Armored Car Troop (Trp A, 2d AC Sqdn). Attached were Company C, 13th Engineers; the 19th Ordnance Company; and the 28th Motor Repair Section. At 0515 hours on 2 November 1931, the unit began its four-day march to Camp Knox. The march and the unit's proposed future are summarized in these extracts from the *Louisville Courier-Journal*, dated 5 November 1931:

A mechanized troop of 400 officers and men reached Camp Knox for permanent station after a 750-mile, four-day move from Fort Eustis, Va. Throughout the transfer, the armored car troops were forced to make special halts to allow the slower baggage vehicles to catch

up. A total of 170 assorted transport and fighting vehicles were in the column...Seventeen motorcycles, two of which were kept at Colonel Van Voorhis' disposal, buzzed up and down, coordinating the movement...The troops will form the nucleus of a mechanized cavalry regiment which will be formed at Camp Knox. It will be the first regiment of its kind in the American Army. It is called cavalry...because it is designed to take over the cavalry role, the characteristics of cavalry being mobility and shock action. The horse has not lost his place of usefulness in the military service, ranking officers with the column said, although the situations in which the horse's vulnerability makes him unsuitable are increasing.

Arriving at Fort Knox on 5 November, the Detachment began to settle into its new surroundings.

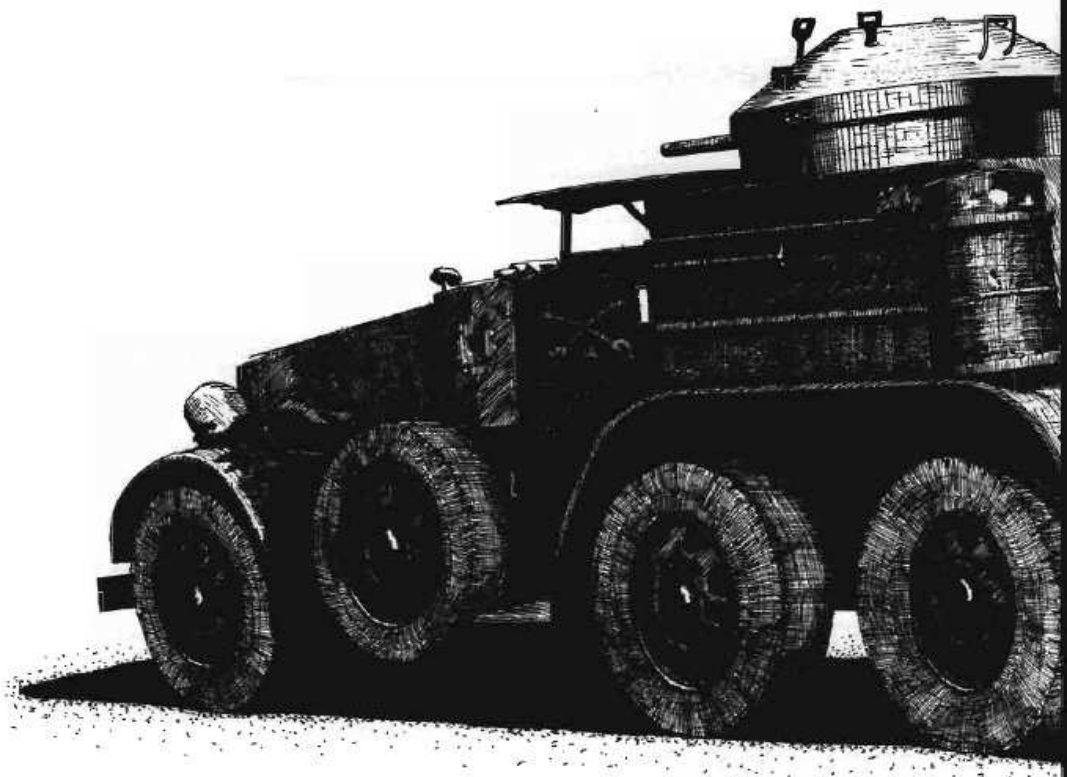
Life at Knox

Camp Knox, at this time, possessed no permanent military housing. When the War Department acquired the 33,000-odd acres during WWI, the village of Stithton was included and approximately fifty private homes in the original setting had been maintained. They were used as officer and senior noncommissioned officer quarters for caretaking and summer training camp personnel. WWI troop barracks, warehousing, and a few shops were maintained, and a large club house, known as the Central Mess, completed the major facilities that we found.

November was devoted to getting settled and planning, as well as it could be done under the uncertain circumstances. My diary reports:

6 Nov. Conference on temporary settling of barracks area; talked over quarters with Chaffee and Hazlett.

9 Nov. On a board with Bermel and Johnson to recommend type and location of garages...plan(ed) an Armistice Day parade in Louisville. Armored cars only will take part.



16 Nov. All officers to Louisville, guests of Board of Trade. In his speech, Van Voorhis said that he expected both the 1st and 4th Cavalry to come here. Don't know where he gets his information.

19 Nov. Letter from the Chief of Cavalry for probable number of hours various vehicles would be used next year. I made tentative training program.

20 Nov. Board meeting to recommend vehicle marking. License plates front and rear and cross sabers on side in yellow. Van Voorhis much discouraged over prospects for a regiment...

22 Nov. We got word the 1st Cav. would not come until May or June. What the War Department expects us to do in the meantime no one seems to know. Worked on new training program based on regiment's arrival in June. Revising TO&E for regiment, saving as many mechanics as possible to organize a maintenance platoon.

28 Nov. Ground clearing. Takes lots of rock.

1 Dec. Construction on garages started.

22 Dec. The air seems charged with a feeling of restlessness due to the long period of fatigue and the feeling that there will be no military training this winter. It is going to be

hard to keep up the morale and keep busy.

Lacking a cavalry regiment to convert, the Detachment kept itself busy building facilities at Camp Knox.

The routine in December and January was much the same. One of the more favorable forecasts appeared in the *Courier-Journal* on 13 December 1931:

Building programs for the new permanent garrison at Camp Henry Knox called for expenditure of \$10,000,000...the actual building may not be started for two years.

The article also described the proposed two-battalion barracks on 7th Avenue, administration building, theater, exchange, gymnasium, post office, library, 19 single sets of officers quarters, 36 double sets for officers, 29 double sets for warrant officers and noncommissioned officers, a 100-bed hospital, guardhouse, fire station, laundry, utility shops, schoolhouse, quartermaster administrative building and barracks, seven garages, maintenance shop, and enlisted service club. These plans were followed to a large extent two years later when permanent construction eventually got under way.

The first General Order of the War Department in 1932 changed the name of Camp Henry Knox to Fort Knox. On 12 January, money problems took on a personal vein with a stunning blow — especially to the officers — when the Union Bank of Stithton closed due to the embezzlement of some \$40,000 by the late cashier, Mr. Yates. All troop funds, post exchange funds, and many officers' personal accounts were kept there.

On 17 January 1932, we learned that Brigadier General Julian R. Lindsey, who had just received his star, was ordered to Fort Knox. On 19 January the *Courier-Journal* reported that the 1st Cavalry would be mechanized at Fort Knox in May and that "an entirely new military unit to be known as the 7th Cavalry Brigade (Mechanized) was organized and expected to be eventually consolidated with Fort Knox as its base...the brigade is to be comprised of the 1st and 4th cavalry regiments and a headquarters and headquarters troop." [Ed. Note: The brigade was eventually formed with the 1st and 13th Cavalry Regiments.] On the 29th of January, we learned that the Chief of Cavalry had approved the TO&E that we



"We now had organized combat car and maintenance platoons and held daily drills, including radio, with varying results..."

come convinced that attached artillery was necessary. This brought in other things — chemical, ordnance, and motor-repair units. In the end, he told me to prepare a TO&E for a mechanized brigade with these units included. I expressed my feelings in my diary: "Can't see where it will get anywhere. It will be similar to what we set up last July (at Eustis) and which was turned down cold by Moseley."

A small stable had been maintained on the post for years and I was able to explore the reservation on a horse during the winter. I felt the area was unsuitable for wheeled vehicles, but it was excellent for tracks. I recorded the following entry in my diary:

On 1 March, rode with Edwards and radio crew in Franklin radio truck to NE section of the reservation. Steep hills, poor roads, mostly wooded, beautiful horse country but impassable for our stuff. Radio fair. As usual, it leaves much to be desired, a heartbreaking job.

The next day, the 2nd of March, Van Voorhis told me that the 1st Cavalry would not move prior to 1 January 1933. I felt that it was a fine mess for 30 officers to be here in the summer with nothing to do. (It turned out that we had plenty to do). I commented in my diary, "I am not surprised, but I think Cavalry has made a terrible mess."

Rumors were rife all spring. On 9 March, Van Voorhis told me that he had word that Moseley in Washington said the 1st Cavalry would certainly not come this year. I felt that we would end up at Fort Riley, or possibly the 13th Cavalry would come to Knox. On 12 March we received a letter from the Chief of Cavalry which enclosed printed TO&Es which he was recommending to the G-3. They included all the important changes that I had put in the draft that we had forwarded on 20 January, so I was delighted. Still later in the month, another rumor surfaced when Van Voorhis told me that Chaffee, on a trip to Washington, reported that the G-3 recommended that the 8th Cavalry come to Fort Knox. At the end of March, we heard privately that the

8th Cavalry definitely was not coming and that there was nothing in sight for us.

On 17 March 1932, Lindsey finally sent in his recommendations for a mechanized cavalry brigade, but he got tangled up and asked for motorized instead of mechanized field artillery. This disappointed Van Voorhis and Chaffee, but the latter said nothing could be done about it as Lindsey was set on motorization. [Ed. Note: "Mechanized" field artillery would be self-propelled. "Motorized" field artillery would be towed.] Later in the month, we received a Cavalry School memorandum on mechanized cavalry. After discussing it with Colonel Van Voorhis, I noted that it did not visualize the employment of the regiment as a whole, but dissected it and used the parts to assist horse cavalry. Van Voorhis was upset by people writing regulations for the mechanized brigade who knew nothing about the subject.

We now had organized combat car and maintenance platoons and held daily drills, including radio, with varying results, but we gained good experience. A schedule of command post exercises (CPXs) was set up partly to justify the retention of the attached Signal Corps personnel. Every day was a testing day for equipment. Van Voorhis and I disagreed on what kind of combat car we needed. I wanted lots of light ones, since I was afraid we would never have enough. Vehicle life would be too short in combat, and I felt we would need tremendous reserves. Van Voorhis wanted fewer and bigger machines. Ford and Chevrolet engineers paid us a number of visits to study what we needed and explain to us what they were engineering and developing.

Defense Day was 6 April, and we paraded a detachment of 40 vehicles through Louisville. Everything hit perfectly. The *Courier-Journal* reported.

Interest was centered on the new Christie tank, the only machine of its kind in existence. This heavily armored tank, bristling with offen-

had drafted. The occurrence was much more favorable than I had expected.

For several weeks we had been negotiating with Kentucky authorities to secure recognition of Fort Knox license plates for our private cars. On 31 January, I saw the chiefs of both city (Louisville) and county police who agreed to recognize Knox licenses until a decision was reached by the state. This decision was later confirmed, and Fort Knox plates were made valid through 1934. The basis of our argument was that since Kentucky would not contribute to our school, we should be able to sell our own plates and use the revenue to help support our "independent" school.

New Organization, Equipment, Doctrine

General Lindsey arrived on 6 February 1932, escorted in from Muldraugh by the armored car troop. He confirmed the orders for the 7th Cavalry Brigade with an inactive Headquarters and Headquarters Troop and the 1st and 4th Cavalry Regiments. On 18 February, Lindsey talked to Van Voorhis, Chaffee, and me about the mechanized brigade. He had be-

sive and defensive weapons, has proved capable of average motor speed over roadless ground...[It] was followed by a number of lighter armored cars, all heavily armed with machine guns and protected by steel armor.

The only trouble was slow pace, as we followed the band at two and one-half miles per hour!

The Chief Signal Officer, Major General Irvin Carr, visited Fort Knox on 15 April and was briefed on our needs. He expressed full cooperation and indicated that the Signal Corps personnel would remain with us. The next visitor was General Drum, who told the officers that we could not expect a cavalry regiment before next spring, but that it was sure to come. We gave him a demonstration of combat car action which included stalled Christies at the start, due to weak electric systems. A Christie engineer came to Fort Knox following a visit to Fort Benning, Georgia, where the infantry had unloaded many of their troubles on him. He received our recommendations and accompanied us on a CPX, driving the only Christie that was running. The exercise on parallel roads south beyond the Green River went very well. We also made back-and-forth visits to the Cummins diesel plant at Columbus, which gave us a good idea of what the diesel engine was like.

We were putting a great deal of thought into the development of doctrine. An entry from my diary on 6 May 1932 is representative:

Fixed up details for tomorrow's CPX. The problem of independent operation under corps or attachment to a division comes up; Van Voorhis is much concerned about any attachment to a division. I think it OK for a regiment but not for a mechanized brigade.

Reporting the results of the CPX, I noted:

Cool and cloudy. Had two Christies along to try them out on dirt roads and changing to tracks and back to wheels. Very successful day. Radio very good. Route: Leitchfield-Harned-Brandenburg-Vine Grove.

Given our lack of a cavalry regiment to train with, we made maximum use of these exercises to develop the doctrine which we would try out when the mechanized cavalry regiment was fully formed.

With the increasing use of vehicles, the maintenance problems mounted. We had many discussions concerning the responsibilities of second- and third-echelon maintenance and their personnel and equipment requirements. I noted in my diary that "We have no sound policy." With the Ordnance Department responsible for combat vehicles and the Quartermaster Corps for the others and our own maintenance platoon building up a stock of immobile shop equipment, complications arose but gradually policies emerged. Among other things, I was working on ammunition allowances for 1934, which required a bit of imagination, but the Chief needs them.

The Last Days of the Detachment

During June, we put on a number of demonstrations for the 10th Brigade, which was at Fort Knox for summer training. The fourth and final Christie was delivered. Joe Holly and Dave Barr, outstanding infantry officers who later became prominent in the Armored Force, were reassigned, and Captain Edwards, our signal officer, was sent to Fort Monmouth, New Jersey, to work on mechanized radio. The Chief of Cavalry, Major General Guy V. Henry, visited Fort Knox on 13 June and informed us that a new organization — Detachment, 1st Cavalry (Mechanized) — would go into effect on 1 July 1932. The War Department plan arrived a few days later, and we started making up TO&Es to send to V Corps, which was charged with organizing the unit.

The last days of the Detachment for Mechanized Cavalry Regiment were busy ones, with demonstrations for ROTC, ORC, and Boy Scouts, studies, reports, recommendations, and reorganization. The Detachment, created on 1 November 1931, had existed for eight months. Considering the problems incident to rehabilitation of a new post, development of organizational and tactical doctrine and equipment, plus the uncertainty of future status, the results were truly amazing. The impressions made on the War Department and all military and civilian observers far exceeded what might have been expected of such a nondescript unit.

Major credit must be given to the initiative and persistence of the commissioned personnel and to the excellent performance of all ranks, as well as to the sympathetic support of the Chief of Cavalry. The following officers, originally assigned to the Mechanized Force, were particularly effective in the development of mechanization during the period in which the Detachment for Mechanized Cavalry Regiment existed:

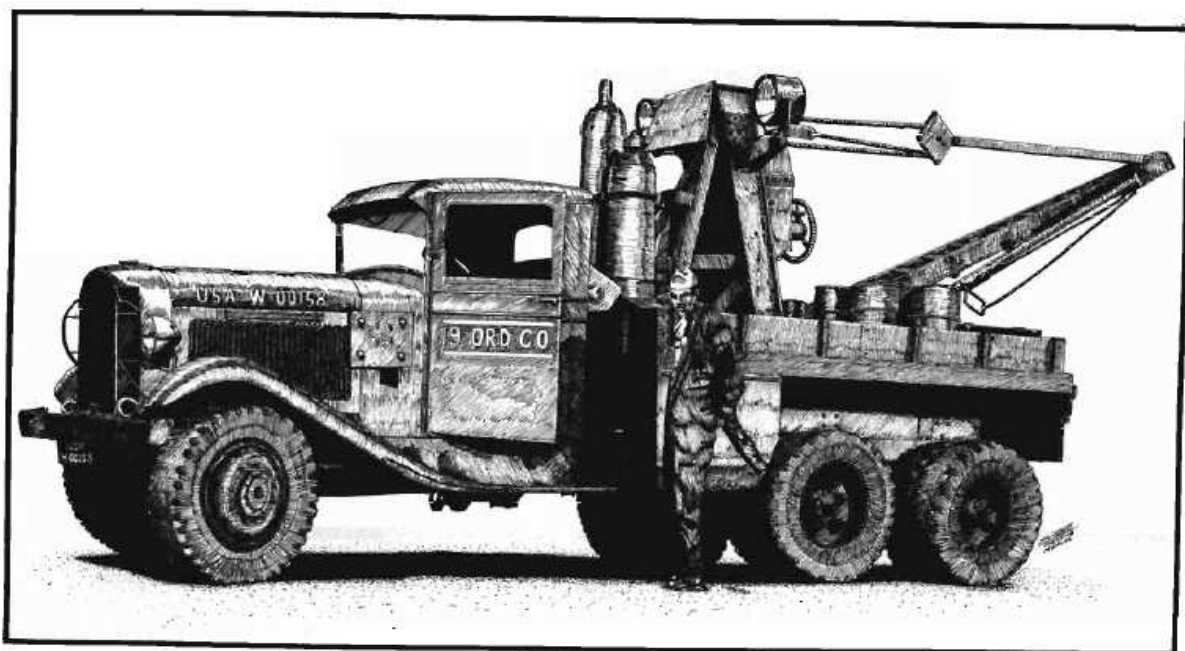
Daniel Van Voorhis, Colonel
Adna R. Chaffee, Lieutenant Colonel
Robert W. Grow, Major
Davis G. Barr, Captain
Paul S. Edwards, Captain
Charles H. Unger, Captain
Earl S. Gruver, First Lieutenant
Joseph P. Holly, First Lieutenant
Thomas H. Nixon, First Lieutenant
James H. Phillips, First Lieutenant
William P. Withers, First Lieutenant

Detachment, 1st Cavalry (Mechanized)

The change of designation of the mechanized unit at Fort Knox on 1 July 1932 appears at first glance to be nothing more than a paper transfer and change of name. It did, however, constitute a commitment of major significance. The Chief of Cavalry and the Cavalry arm had taken the one step that was essential if cavalry was to become an effective combat force (i.e., the substitution of iron horses for flesh and blood horses in an existing cavalry regiment). That this substitution was not carried out to its full extent in the years that followed does not reflect adversely on the cavalry officers who served at Fort Knox.

Although we could not expect the complete mechanization of the 1st Cavalry for many months, we had a definite objective and were able to create a specific type nucleus for a balanced combat unit. The organization and key officer assignments as of 1 July 1932 were as follows:

SQUADRON HEADQUARTERS:
Daniel Van Voorhis, Colonel, Commanding
Robert W. Grow, Major, Executive Officer and S3
Carl Rohsenberger, Captain, S4
Aladin J. Hart, First Lieutenant, Personnel Adjutant



William P. Withers, First Lieutenant, Adjutant

HEADQUARTERS TROOP:

William P. Fletcher, Captain, Commanding
Clyde B. Bell, First Lieutenant, Communications Platoon
John C. Hamilton, First Lieutenant, Headquarters Platoon
James H. Phillips, First Lieutenant, Maintenance Platoon

COMBAT CAR TROOP:

Harrison H. D. Heiberg, First Lieutenant, Commanding

MACHINE GUN TROOP:

C. Stanton Babcock, First Lieutenant, Commanding

TROOP A, 2D ARMORED CAR SQDN (ATTACHED)

Charles H. Unger, Captain, Commanding

POST HEADQUARTERS (SPECIAL DUTY):

Adna R. Chaffee, Lieutenant Colonel
William G. Simmons, Major
Richard W. Carter, Captain
Hal M. Rose, Captain
Frederick W. Fenn, First Lieutenant

Several other officers joined the unit within the next few weeks to complete the staffing of the organization.

Little progress was made in 1932 towards the development of mechanized equipment, but ample evidence of inadequacies in the few vehicles available cropped up in the many demonstrations that we gave for various organizations. On only one day were all four Christies run-

ning. Temporary repairs were made, and much of value for future design was learned. Christie visited Knox in early September and aired his differences with the Ordnance Department. After driving one of the vehicles and firing both the 37-mm gun and the caliber .50 machine gun that we substituted for it, I complained bitterly that the Christie was not built as a fighting vehicle but only as a mobile "cradle for an engine." The La France people, with Ordnance backing, spent weeks installing and testing the La France engine, but it proved inadequate.

A variety of studies on my desk competed for time all summer. The most important was a Cavalry School study on the employment of mechanized cavalry, sent to us for review. Others included the supply plan, maintenance records, and changes in TO&Es.

Little by little, new motor equipment came in. On 12 August, we were able to send a column to Toledo, Ohio, for a demonstration. Under Captain Unger, it included seven new T-4s, two Christies, six motorcycles, one kitchen truck, three cargo vehicles, four passenger cars, two repair trucks, and a wrecker. In September, we sent a convoy to Holabird to bring back 45 remodeled trucks. These turned out to be a lifesaver for the Marfa, Texas march coming up in December.

Jottings from my diary during the summer of 1932:

Worked all PM on Christie monthly report. Made a point of designing cars for fighting and not for carrying an engine.

Sent No. 3 Christie to Vogt Machine Shop to have front idler beam straightened. Van Voorhis rather discouraged at Christie outlook. We hear that appropriation bill carried money for tanks, but none for combat cars. [Ed. Note: In 1932 the Infantry Branch was the proponent for all tanks. The Cavalry Branch only had proponent for combat cars and other scout vehicles.]

New draft of pamphlet from Cavalry School with orders from the Chief to write the chapter on mechanized cavalry regiment.

Thorpe (Ord. Dept.) has proposed redesign of Christie giving much bigger crew compartment and more guns. He is opposed to turret.

Two new T4 armored cars arrived by rail from Rock Island. Several improvements based on our recommendations. Principal weakness is still the dead front axle.

Had three Christies running this AM. Took them out for rehearsal. Two promptly broke down.

No. 3 Christie broke a crankshaft and camrod and tore the crankcase open. A mean job. 19th Ord. is pulling the engine.

One demonstration after another, with rehearsals, constituted the training program for the summer. Each demonstration was developed to test a tactical principle. Since we

were attempting to "sell" mechanization, the program was invaluable in spurring our initiative and encouraging top performance by all ranks. Things did not always go well, however. In one demonstration a Franklin armored car broke a front axle in front of the crowd. I met Senator Barclay during that demonstration, but he did not seem too interested in what we were doing.

The following are some jottings from my diary during a trip to Washington:

Had a long talk with Middleton (La France) on speed and dependability. I want them in reverse order...We have asked for too much speed.

Subjects of talks in the chief's office: Cavalry School thought on mechanization; limitations; new equipment; personnel; basic principles of employment. Ordnance going to design a new car this year. Well pleased with Washington visit. Both Chief of Cavalry and Ordnance know our ideas better. We have lacked a sympathetic understanding. I believe I helped out some.

Upon my return to Fort Knox, I had a talk with General Lindsey, who felt that the Chief was failing "miserably" in mechanizing the force. Lindsey wanted the 4th Cavalry to come to Fort Knox in addition to the 1st Cavalry.

Demonstrations for civilian components ended in September and the troops began range practice, which included combat firing with vehicular weapons. Van Voorhis and I did some firing on the M1 armored car. Van Voorhis took a mean bump on the head while reloading the weapon. We discovered that the telescope sight was no good while the vehicle was moving. I also drove, fired, and commanded the Christie over an unknown course to complete the Christie combat firing. I noted that the fighting compartment was not designed for cavalry combat. Observation and control was the greatest problem. The radio was also a problem with so many nets. Range practice with weapons was combined with officer driving instruction and tactical, maintenance, and communications instruction.

Rumors Abound

The rumor mills ground on when the Chief of Cavalry told us that he

was by no means sure that the 1st Cavalry would come to Fort Knox. The G3 thought that we might go to Marfa instead. At the end of October, Van Voorhis told me that the Chief reportedly said that we could expect little in the way of either personnel or equipment for three years. On the last day of November, however, the *Courier-Journal* carried the news that almost put an end to the rumors of the past year:

Long delayed plans for transfer of the 1st Cavalry from Fort D. A. Russell, Texas, to Fort Knox, where it is to be transformed into the first mechanized cavalry regiment in the U.S. Army, will be completed in January. Definite assurances to this effect were given to Representative Thatcher of Louisville by War Department authorities...[The] movement will probably be made by train since most of the horses will be left in Texas. Texas members of Congress have protested...Speaker John N. Garner, Vice-President elect, is attributed with having been largely instrumental in temporarily delaying the abandonment of these Texas posts.

Van Voorhis confirmed this story by telling me that the Chief of Cavalry had asked him for a tentative itinerary to Marfa.

The rumors did not stop with the publication of the story above. Although many of the rumors that we heard were grossly distorted, I include them to show the things that come to the ears of junior officers. General Lindsey had lunch with General MacArthur and General Henry in Washington in early December, and the rumor went around that Henry suggested to MacArthur that mechanization be dropped for 10 years. MacArthur supposedly told Henry that if the 1st Cavalry could not come to Fort Knox, he had better find another regiment quickly. Since this rumor came to me on the same day that Chaffee wired from Washington that a large amount of gas had been set up for us at the end of the month, I doubt that Lindsey's version is the complete story. The story does explain to some extent, however, why we were always in doubt as to the Chief of Cavalry's real attitude. Rumors did not cease with the subsequent changes in the office of the Chief of Cavalry, either.

On 7 December we heard that we were to get the 1st Cavalry about 1

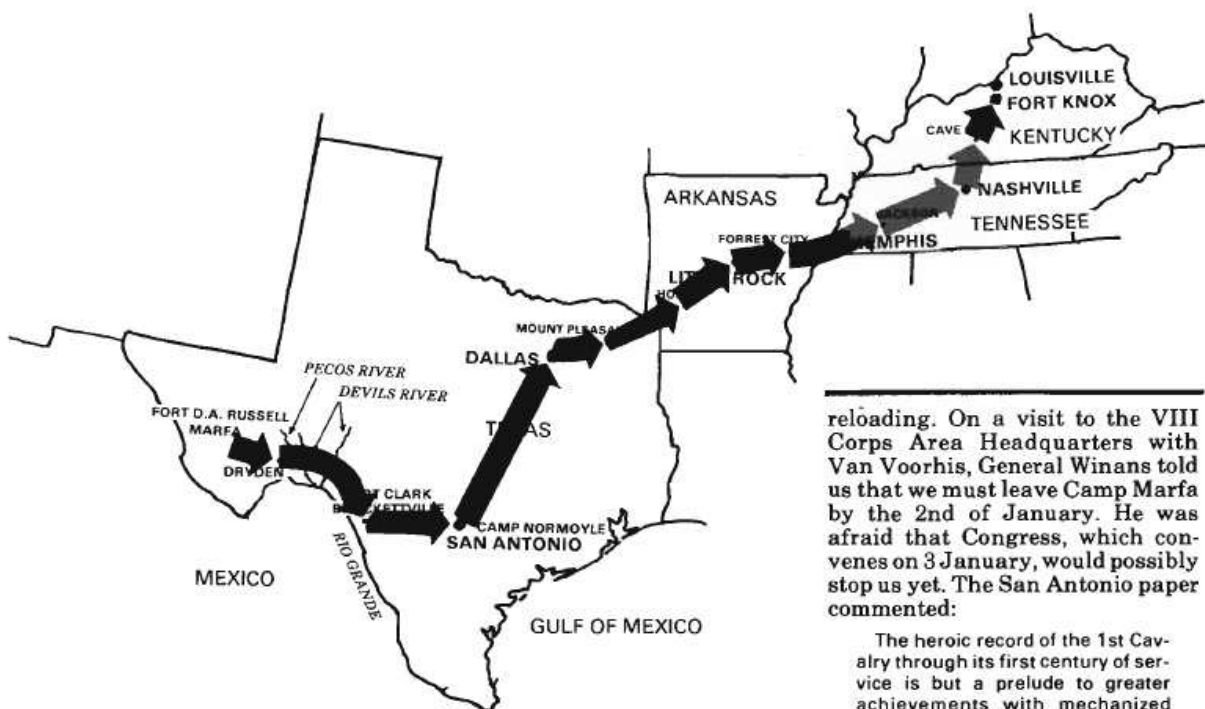
"The Fort Knox-Marfa-Fort Knox march in mid-winter was remarkable — in fact, unprecedented for its time."

Map arrows (in red) trace historic route of the 1st Cavalry (Mech) from Texas to its new station at Fort Knox. Only one vehicle was lost on 3,240-mile trip, covered in 25 days. Troops camped in tents in sub-freezing temperatures.

January 1933. We had prepared a plan to use the Marfa march as a training vehicle, employing all of our wheeled equipment and the bulk of our personnel. For reasons of economy, this plan was disapproved by the V Corps area. After considerable negotiation, we were cut down to the minimum essential to transport the troops from Marfa to Fort Knox. Final instructions directed us to depart Fort Knox on 17 December to reach Marfa on or before 30 December. At last, after a year as "Detachment for Mechanized Cavalry Regiment" and then "Detachment, 1st Cavalry (Mechanized)", the 1st Cavalry (Mechanized) would come into being.

The Marfa March

The Fort Knox-Marfa-Fort Knox march in mid-winter was remarkable — in fact, unprecedented for its time. The fact that only one vehicle was lost, that there were no other accidents and that the schedule was followed without change, reflects great credit on the men who drove the motley array of vehicles. The march was carried out during 25 marching days, with six layover days, and covered 3,240 miles. While the daily marches appear short by modern standards, it should be borne in mind that most of them were made in sub-freezing



weather and that the troops camped in pyramidal tents heated by Sibley stoves and slept on straw locally procured each day.

Notes from my diary highlight the conditions during the march:

17 Dec. Dispatched at 0800, with 11 officers and 104 men and 66 vehicles. Below freezing and the road south of E'town covered with fresh snow...Leading elements made camp at Gallatin at 1530...FWD 2-ton skidded over 30 ft. embankment at Westmoreland, hurting driver and put truck out of action.

18 Dec. Motors so cold it took an hour to get everything started. Dispatched at 0800...Still freezing. Men slept well.

19 Dec. Camped in fairgrounds at Memphis in wet snow...found a community house for the men to bathe. Laid over the next day and inspected all vehicles, finding many small items. The Memphis paper noted: "Back in the days when horses were king and kings weren't kings without horses, the 1st Cavalry used to dig in spurs and gallop into the midst of the bloodiest battles American history has known. But the World War changed the horse's status — not to mention the status of several kings. The death-dealing tanks, scouting motorcycles, and airplanes and armored cars relegated the mounted soldiers in the great conflict to a back

position on the front of war. So Memphis was host last Tuesday to a shivering mechanized detachment of the famous 1st Cavalry, which is enroute to 'unhorse' the 1st Cavalry there [Marfa] and return it to the Kentucky post [Knox]...A self-contained unit capable of striking a hard, quick blow will be the result...

21 Dec. Dispatched from Memphis at 0735 somewhat delayed by poor starting. Drizzling rain and foggy. No police escort, so we dropped our own traffic men...Camp site at Lonoke proved to be excellent.

23 Dec. Experience was showing up. Dispatched from Prescott at 0700. The best start we have made...All closed in camp at Mt. Vernon by 1600. Pouring rain all evening, so men slept in trucks.

24 Dec. Clear and bright. We shed our mackinaws. Broke out the motorcycles for the first time...

25 Dec. A beautiful bright warm Christmas day. The two sections of our column rolled down Texas [Route] 3 through Waco to Georgetown.

26 Dec. Destination Normoyle QM Depot in San Antonio where all vehicles were parked in a shop and the men quartered in the gymnasium.

We laid over at San Antonio the next day, servicing, repairing, and

reloading. On a visit to the VIII Corps Area Headquarters with Van Voorhis, General Winans told us that we must leave Camp Marfa by the 2nd of January. He was afraid that Congress, which convenes on 3 January, would possibly stop us yet. The San Antonio paper commented:

The heroic record of the 1st Cavalry through its first century of service is but a prelude to greater achievements with mechanized equipment, in the opinion of officers who for the past year or two have been operating the new steel mounts of the regiment. Articles published throughout the country have decried the fact that the oldest cavalry regiment is being dismounted, the writers taking the position that the regiment is being done away with...This is far from the true facts...The regiment is being mechanized to increase its speed and efficiency and its history will continue with strong probability of even greater glory than in the past.

At least some of the press was giving us fair treatment.

We closed on Fort D. A. Russell in Marfa on 30 December. Our reception there was mixed. The troopers, in most cases, were interested and welcomed the change. The officers were doubtful, but since none of them were to come back with us, they showed more interest in their future assignments with horse units. We were deluged with questions, however, which indicated to me that Cavalry had reached a turning point.

At 0815 hours on 2 January 1933, the convoy dispatched from Fort D. A. Russell. Our departure was not enthusiastically regarded in Marfa, as indicated by the following press item:

Three hundred of the 'Dandy First' Cavalry Regiment left here today for their new post at Ft. Knox, Ky. As they departed, leaving behind 250 common-law wives and

Souvenirs of the Marfa March

A souvenir photo booklet commemorated the 1,600-mile road march. At left, the unit crosses the Pecos River in Texas. Below, many miles later, the long column crossed the Mississippi at Memphis.

(Photos from Patten Museum archives.)



some mixed Mexican-American babies, the citizenry professed to regard the virtual abandonment of the post with concern.

The return march was even more satisfactory than the trip down. The new men were delighted with the comforts of riding "fast and smooth" and the absence of any horse grooming duties. Many new hands took a turn at the wheel. At Little Rock, the local paper quoted me in part:

"I want to correct a general misapprehension of what is to become of the 1st Cavalry. People see us passing through the country in motor trucks. They get the idea that this is the ultimate accomplishment. They hear and tell their friends that the regiment is to be motorized, which isn't so...You suddenly find yourself moving at considerably increased speed [and] you must think faster, act faster, speed

up your facilities of observation, and get your advance information quicker. Your reporter suggested that it was kind of sad to see horses passing out of the military picture, but...cavalrymen [are] not looking at that side of it. They realize that mechanization must come and they are centering their interest on the new plan instead of on [the] history and tradition that the 1st [Cavalry] built up in a century of fighting on horseback. One thing they can be sure of. They are helping to perpetuate the great old regiment."

We left Little Rock on 12 January. On the 14th of January, we camped at Jackson, Tennessee, where quarters were provided in the armory. The basketball team from the regiment beat the Jackson National Guard team. Our reception was so cordial that the regiment renewed its visit a year later on a training exercise from Fort Knox.

An interesting press dispatch dated 13 January 1933 illustrates the difficulties encountered by the Chief of Cavalry, General Henry:

Despite the long delay in the transfer of the 1st Cavalry from Ft. D. A. Russell to Ft. Knox, there is not anywhere near the proper equipment at the Kentucky post to mechanize the regiment. Maj. Gen. Guy V. Henry told the Military Affairs Committee during hearings on the War Department appropriation bill...Reports that political considerations had been responsible for the War Department's delay in ordering the transfer of the 1st Cavalry... 'I have understood that your implements are out there [Fort Knox] rusting because of non-use while the soldiers were down in Texas' said [Chairman of the Military Affairs Committee Ross A.] Collins. 'A portion of our so-called implements are at Ft. Knox' replied Gen. Henry, 'but this regiment is by no means





Troops stopped for lunch at a roadside near Dixon, TN. A few days later, the column entered Fort Knox (photo at bottom of page).

properly equipped with material. There is not anywhere near the proper equipment at Ft. Knox to mechanize a regiment.'

It is apparent that Representative Collins was misinformed as to the "rusting", but the fact remains that, over the years, he proved to be one of the most difficult to convince of our requirements. Years later, I appeared before his committee a number of times to justify even the most minor appropriation for equipment.

The march resumed on 14 January. We camped at Bellview, Tennessee, and the following day at Cave City, Kentucky. We could easily have reached Fort Knox on the 15th but preferred to make the short 60-mile march with a ceremonial return to our home station on the morning of the 16th. The press reported:

As a welcoming rain commenced to fall, the long column of vehicles under the command of Col. Daniel Van Voorhis, which had trekked to Marfa, Tex. and back, wound its way into Fort Knox at 1030, Monday morning, Jan. 16. When the command passed in review before Brig. Gen. J. R. Lindsey, the speedometers clocked their thirty-two hundredth mile since the column left its home station on the 17th of Dec...

We were home.

This much is certain. The young 1st Cavalry (Mechanized) was ushered into active life with the longest march ever made by any Army unit in fewer than thirty days. Fort Knox had come into its own. The 1st Cavalry (Mechanized) slept under its own roof for the first time, on one post. The Blackhawks had switched horses, but not tradition.

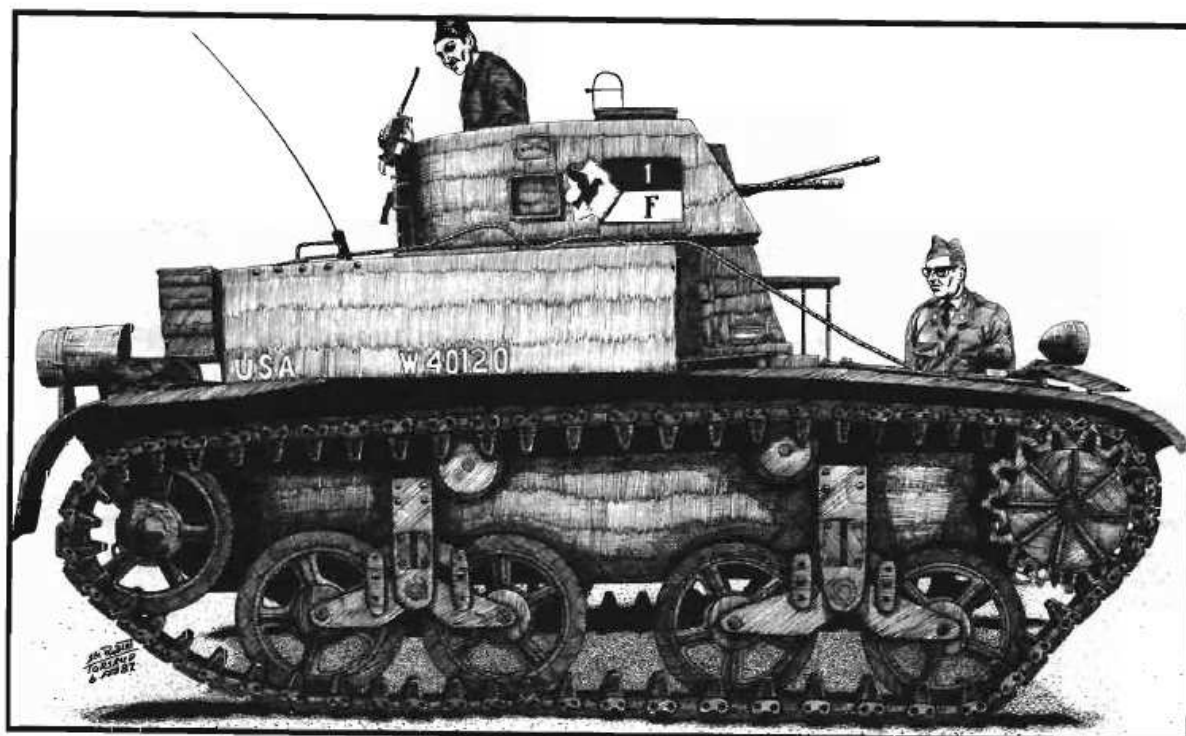
The oldest cavalry regiment in the army was still the oldest cavalry regiment — was still the glorious old First — with the same old toast that a century has mellowed: "First Today."



MAJOR GENERAL ROBERT W. GROW, whose career began as a horse cavalryman, became one of the pioneers in the mechanization of the U.S. Army. He was the first S3 of the Mechanized Force under Chaffee and Van Voorhis in the early 1930s and later commanded the 6th Armored Division in the European Theater during WWII. He retired as a major general in 1953 after serving as military attache in Moscow during the postwar years. General Grow died in November, 1985.

Captain Peter R. Mansoor and Kathy Cast Garth helped to prepare "The Ten Lean Years" manuscript for publication.





The Ten Lean Years

From the Mechanized Force (1930) To the Armored Force (1940)

by Major General Robert W. Grow, USA, Retired

(Part 3 of 4)

After our return from the Marfa march on 16 January 1933, the 1st Cavalry (Mechanized) was reorganized at Fort Knox. By the 1st of February, schools for both officers and enlisted men were underway and the regiment was out on its first march. My diary recalls:

Had a strategic situation which worked out pretty well...some Christie trouble and some 6-wheel Chevrolet trouble but generally a very good march...radio left much to be desired, but we had enough to try out some pertinent problems.

We were finally able to test out our new doctrine with a complete unit.

Work on temporary garages and motor parks from salvaged stables and our own rock quarry kept us busy all winter. On 20 February, I

noted in my diary, "It seems as if our whole existence now revolves around rock." The engineer company was sent back to Fort Belvoir, Virginia, in May. This threw all construction work onto the regiment. As the engineers left, I commented in my diary:

The old Mechanized Force is fast disappearing. It is hard to recall it now. Only a few scattered men and officers, the 19th Ord., and 28th MRS but they are no longer part of us but post troops.

The new officers and men, however, were equal to the challenge.

We learned from the Chief of Cavalry in late February that we were due eight M1 armored cars, four personnel carriers, and one combat car during the fiscal year and nine more combat cars the next fiscal

year. Counting substitutes, we had enough equipment to carry on a good training program. After some exercises on the reservation in February, our first extended overnight problem began on 7 March. My diary records:

Van Voorhis called me at 0600 announcing alert plan effective. Troop A out at 0730, regiment at 0830 on tactical march to Lawrenceburg. Problem excellent. Outstanding points: Everyone needs much map reading. Advance guard lost several times. Too many baggage trucks. They should all be in HQ troop or rather in a service troop. Bivouac and outpost system still needs to be worked out. Radio not reliable...Advance guard distances and communications must be worked out...Kitchens must carry more food. Main body arrived at 1400 (100 miles). Trains left at Bloomfield until they were sent for, arriving at 1645, made distribution, and returned to rear echelon bivouac at Bloomfield. Kitchen and baggage stayed up. Outpost established at Tyrone on the river. Troop A recon covered Shakertown to Frankfort.

"Major Philips of the German Army paid us a visit during the spring and gave us his impression of Hitler..."



8 March: Withdrawal from Lawrenceburg, Troop A covering and Troop B rear guard...return march via Hodgenville.

The regiment was learning its business.

With the regiment together we had an opportunity to think about organization. Of many new ideas, some were a service troop taking all supply trucks away from combat troops; a separate armored car troop; one squadron of two similar troops with scout combat cars, machine guns, and riflemen; and a second squadron of combat cars. The idea was to have a balanced regiment with the reconnaissance under the regimental commander's control, one squadron primarily for holding and support power, and one squadron for striking power. In a sense this was a carryover from the Mechanized Force, but with better balance except for artillery and the other non-cavalry units.

Organization Day was celebrated on 2 March 1933 when the regiment became 100 years old. Beautification was not overlooked this spring. On 17 March we transplanted one-hundred and thirty sugar maples from the outer reservation to the barracks area. One of the more important projects was the establishment of a "Mechanized Board" under the name of "Technical Committee." The press noted on 27 April:

Orders have been published in the 1st Cavalry (Mechanized) setting up at Ft. Knox a technical committee to deal with the testing of experimental equipment in that regiment...Membership is Maj. R. W. Grow, Capt. R. N. Atwell, Capt. C. J.

Rohsenberger, Capt. W. D. Steiger and Lieut. W. P. Withers. The Committee conducted tests Thursday on three of the experimental units now assigned [to] the regiment. An exhaustive test was made of the new kitchen truck...At the same time, a road march test was given the new 4-ton, 4-wheel-drive truck...the command car from the same troop was subjected to a test in which a new experimental generator manufactured by a Louisville firm was tried out.

The Committee became increasingly important and eventually became the Armor Board.

The Civilian Conservation Corps (CCC) descended upon us in April, but aside from preparing their area and furnishing them a few officers, we were not initially involved with their projects. Construction work, which had continued all spring in spite of a very rainy season, was nearing completion by the end of the month. My diary records:

Clearing, fencing, leveling, shops, grease racks, wash racks, lights, drainage, etc. take more time than the garages themselves. It is beginning to look like the end.

All work had been troop labor. By June, the CCC, a task which had started out mildly, began to take such a large toll of officers that the regiment was down to a skeleton staff and troop commanders. In return, however, we began to get a good bit of fatigue work from the CCC. We were still able to keep up field exercises and demonstrations during the summer.

Major Philips of the German Army paid us a visit during the spring and gave us his impression

of Hitler (favorable) and described the German Army. He was given rides in an armored car and the Christie. I was pleased to note that the German ideas on Mechanization agreed with ours and not with those of the Chief of Cavalry.

He returned during the summer, this time accompanied by Major Hans Von Greiffenberg (both were General Staff officers who went on to become generals during WW II). Their visit brought about some very interesting discussions. We gave them rides in the M1 armored car and showed them the radio. (The caliber .50 machine gun was kept under wraps). After a pleasant dinner at Doe Run one evening, we had a discussion on comparative mechanized development. My impression at this time (as well as subsequently) was that our thinking was ahead of theirs with respect to the employment of self-contained fighting units, but that they were ahead of us in the development of vehicular equipment. They were going all out in anticipation of a European war in the near future, while we were hamstrung by the Depression and no imminent threat. International politics, in fact, affected us deeply. Van Voorhis came back from a conference in Washington in June and asked me to work up the reorganization necessary in case combat cars and tanks were ruled out by the disarmament conference.

We were "deep in the taxi business" during the summer, running range convoys for ORC and ROTC. Demonstrations, tests of new equip-

ment (pilot personnel carrier; 1¼-ton, 2-ton, and 4-ton trucks; Christies with both La France and Liberty engines; the kitchen truck; etc.), and command post exercises (CPXs) were worked into the schedule. Our recommendations on the kitchen truck were not too kindly received by the War Department. The Deputy Chief of Staff, Major General Van Horn Moseley, opposed the truck because he felt it was too elaborate and thought that men should eat if and when they could. My diary records:

This is one of those discouraging things that have come up repeatedly in the past three years — old men who can't accept progress, who want mechanization without modernization.

Our Christie tests led me to note that what we really needed was an all-track vehicle and not a convertible. Training lessons were also evaluated. After one combat exercise in which the troops failed to deploy promptly or properly, I noted, "Moral: You can't learn to fight by marching on the highway." Nevertheless, by the end of the summer we could feel that the 1st Cavalry (Mechanized) had developed into an effective, self-contained fighting unit.

The four-day September field exercise that covered most of central Kentucky seemed to bear this out. I recorded in my diary:

The Forrest Hill battle which terminated the four days worked like a charm. Main body arrived on 7th Ave at 0830 (from Hodgenville). Fragmentary orders were issued by 0900, the attack over and position consolidated by 0925. One Christie changed to tracks in 23 minutes, the other a little longer. The French general and Norwegian captain (visitors) quite enthused. All reserve officers did well. Van Voorhis very enthusiastic about the whole exercise. Chaffee, Otto Trigg, and Paddy Flint had their eyes opened. The best one-sided maneuver I ever saw. Staff work and enlisted staff excellent. Orders were put out in the field in a correct and realistic manner. Communications were good.

Things were coming together well.

Vehicular combat firing during the fall developed many points. I recorded in my diary:

There is too much tendency to halt in exposed places to lay down fire. Combat cars must not halt to fire but continuously press forward, firing as targets appear.



On the subjects of march formations and ambushes, I wrote:

Must be prepared for the latter [ambushes] and have platoons of combat cars designated to promptly leave the road and attack without waiting for a regimental order.

After a 700-mile march to Jackson, Tennessee, and back, my most enthusiastic comment was, "Christies came through fine, all four of them." The training would have its payoff in the spring when the regiment deployed to Fort Riley for maneuvers.

A garrison dismounted review on the field in front of the club was held on 8 November 1933 to officially celebrate the opening of construction of the new post. During the winter of 1933-1934, much time was devoted to experiments with vehicular weapons mounts and squad organization as we began to prepare for the big Riley maneuvers scheduled for the spring.

The Riley Maneuvers

The 1st Cavalry (Mechanized) was relatively isolated from the rest of the cavalry arm. Some horse units were stationed on the Rio Grande, some in a few small garrisons in the Northwest, and the remainder were located at the Cavalry School in Fort Riley, Kansas. Although the impact of the mechanized development at Fort Knox was felt in the War Department and by Regular Army and civilian component units in the V Corps area, cavalrymen as a whole failed to recognize the significance of the evolution that was under way.

The maneuvers of 1934 at Fort

Riley, which pitted mechanized cavalry against horse cavalry, were an important factor in establishing the fact that the cavalry role in battle could be performed with iron horses. Although the equipment available to the 1st Cavalry Regiment (Mechanized) was crude and experimental, the forward-looking officers at the Cavalry School, as well as those at Fort Knox, could see the great possibilities ahead.

Tentative planning had started in the fall of 1933. During the winter we had conferences on tactics, supply, and maintenance, while we carried on correspondence with the Cavalry School. Meanwhile, the regiment was faced with a considerable turnover in personnel. Colonel Van Voorhis was reassigned as the Chief of Staff, Hawaiian Department, and left at the end of February. Lieutenant Colonel Adna R. Chaffee took command of the unit and I remained as its executive officer. Major I. G. Walder became the S3 and Major H. A. (Paddy) Flint took the 2d Squadron. I was ordered to Fort Riley early in March for 10 days of consultation on the maneuvers.

My reception by the commandant, Brigadier General Lott, and by all of the school and post personnel was cordial. Colonel Bruce Palmer, who was due to take command of the 1st Cavalry in July, was assistant commandant and Lieutenant Colonel John Millikin was director of instruction. We worked over the plans for all of the exercises. I reconnoitered by car and horse all of the areas, and we finally settled the administrative and supply matters. Although some changes were made, the problems were not slanted to favor either the horse cavalry or the mechanized cavalry. They were designed to bring out the capabilities of both, operating together as well as against each other. I was highly satisfied about the plans and arrangements we had made.

Back at Fort Knox, we tried to work the bugs out of the regiment and its equipment. We were still trying to develop the principle of the convertible tank, although I had lost faith in it. After three years of training it still took us far too much time to change the vehicle from its wheeled configuration to its tracked configuration. A new combat car, the T4, was given ex-



tensive tests both before deployment and at Fort Riley. Several field exercises in March did much to develop a smooth-working, self-contained fighting unit. My diary recalls:

Took defensive position Roosevelt Ridge-Forrest Hill and withdrew after dark to OP6 area. Regiment did the best of the year...operations at night easy. Plane worked us both day and night. Communications excellent. Regiment is shaping up into a maneuverable unit. Chaffee well pleased.

The organization was flexible and could be easily adapted to fit the situation. We were ready for the maneuvers.

As we were about to leave for Fort Riley, orders were received which designated General Henry as commander of the 7th Cavalry Brigade (Mechanized), beginning in July, replacing General Lindsey who was due to retire in September. The orders also announced that Colonel Leon B. Kromer would be the new Chief of Cavalry. Both Henry and Kromer attended the Riley maneuvers.

The regiment donned its new shoulder patches (yellow circle

with tank superimposed) and received its new standards at a review and full field inspection on 14 April 1934. We dispatched on the first leg of a six-day march to Fort Riley on 19 April. We conducted an exercise each day along the way. The *Chicago Tribune* ran a story with a picture of Chaffee beside an M1 armored car:

The 1st Cavalry (Mechanized), one of the most complete fighting units in the peacetime army, will load its 600-odd soldiers into its grim looking fighting cars and depart Thursday for a four-day hike to Ft. Riley, Kan...The regiment will spend two months in maneuvers with horse cavalry, the first time mechanized and horse cavalry are to be coordinated.

We actually took six days, arriving in camp soon after noon each day with reconnaissance and march formation problems en route and careful first- and second-echelon maintenance on arrival. Our arrival at Fort Leavenworth on 23 April was witnessed by the student body, in bleachers, the units being described as they passed by.

The press carried a long article

describing our arrival at Fort Riley, part of which read:

Bearing the old insignia, a black hawk on a yellow ground, of the time-honored First Dragoons, the leading car was followed by a color guard with regimental colors displayed. Each troop carried its own guidon. A Troop contained the 20 armored cars, B Troop the fleet of scout cars, and E and F Troops comprised the combat squadron. The Machine Gun Troop and Headquarters Troop, to which were attached the cars of the supply train, completed the column...Any old-time trooper on the Ft. Riley reservation would tell you, if you asked him, that while the mechanized cavalry might supplement him today, it could never, in a thousand years, supplant him entirely.

The upcoming maneuvers would prove otherwise.

It is hard to evaluate the full effect of the seven maneuvers and several demonstrations on the future of the cavalry arm, but no cavalryman at Fort Riley disputed the fact that mechanized cavalry proved its ability to carry out all types of cavalry missions, both day and night, in fair and foul weather. Weaknesses were demonstrated,



Snapshot above shows command group in bivouac at a roadside stop near a cemetery. LTC Chaffee is second from left. In photo above right, cavalrymen mounted in a scout car orient on their maps prior to moving out at daybreak.



At left, an experimental autogyro maneuvers with light tanks at Fort Knox.

but overall, the speed, flexibility, firepower, communications, and supply of a self-contained mechanized regiment convinced all but the more short-sighted "horsemen" that the future of the army lay in mechanization. The need for vast improvement in equipment was apparent, but that could be foreseen. In retrospect, one wonders why more senior cavalry officers failed to sense the inevitable. We can only assume that tradition and devotion to their faithful mounts clouded their thinking and obscured a clear recognition of the role of cavalry. While there were many converts, there were never enough, especially from the Mexican Border units, to bring about an orderly transformation of the arm which was destined to lose its place on the battlefield to a new force under a new name.

Details of the Riley maneuvers are covered in official reports; however, some extracts from my records are revealing. Three days after our arrival, we staged a review on Smoky Hill Flats followed by an inspection in line of troop columns by all post officers. We were highly complimented by Lott and Kromer. Later demonstrations by platoons and finally the regiment in attack went fine, especially the speed of closing, which made a good impression on those present.

The first maneuver was a reconnaissance problem and is described in my diary:

To Abilene the afternoon of 4 May in heavy rain...With chains on wheeled vehicles, marched without lights to Wakefield where superior enemy forced change of plan...at 0150 marched via Chapman to Junction City, forced Washington St. bridge and initiated reconnaissance in force to the north...night driving difficult due to slippery mud...Everyone surprised at mud mobility of the 1st.

The mobility of the 1st Cavalry (Mechanized), in fact, was to surprise quite a number of people over the next few weeks.

The second maneuver, three days later, was a meeting engagement with the 1st advancing from the village of Riley to seize Four-Way Divide Ridge. I recorded in my diary:

Colonel Smith (2d Cav.) was apparently bewildered by the speed of our approach...Armored Car Troop attained a speed of 65 miles per hour from Riley to Estes Gate. The main body marched [at] over 30 [m.p.h.]...Communications were excellent. Chaffee did nobly. The T11 armored car proved very good. The regiment performed exceptionally well.

We were making our point.

The third two-sided maneuver began on the afternoon of 10 May, with the 1st Cavalry (Mechanized), reinforced by a battery of artillery, jumping off from Dwight. We were ordered to hold the horse brigade north of the Riley and Junction City bridges. It was too much front for a regiment. The night was dark and the driving difficult without lights, but only one vehicle was damaged. The cavalry brigade was handled very well.

On 14 May, starting at 1400 from Topeka, we carried out the great encircling maneuver that astonished everyone, including ourselves. We lost the race to the Big Blue River, whose bridges had been destroyed by the horsemen. We side-

slipped to the north, marching all night and testing all crossings now held by the enemy, till we finally made a crossing at Barnestown, Nebraska, and headed west. We moved to the Republican River bridge at Republic, turned south there at 1100 on 15 May, advanced to Bennington, and then turned east to Talmadge, where contact was made late in the afternoon. We bivouaced for the night and attacked at dawn on 16 May, terminating the maneuver. It was the longest and fastest tactical operation ever made by American cavalry to that date.

The Leavenworth class came to Fort Riley on 22 May. We put on a demonstration for them, then marched to Council Grove for the next exercise, a combined exercise with the brigade. Troop A moved out at 2230 and the main body at 0200 via Dwight, Manhattan, and Keats. We advanced north of the reservation and attacked Morris Hill in conjunction with the brigade for the benefit of the Leavenworth visitors. My diary records:

Poor brigade communications. Palmer tried to plan his battle too far in advance. Horse cavalry is tired...Chaffee gets better every problem.

In my mind, Chaffee was the finest tactician that I ever knew. George Patton was the next.

The last maneuver was staged on 25 May when we were brigaded with the 13th Cavalry and attacked the 2nd Cavalry. The exercise went well. The regiment remained at Riley for two more weeks and devoted its time to maintenance, tests, range firing, plus a final regimental exercise of our own to test a suggested reorganization. I recorded in my diary:

All four troops organized with two combat car and one machine gun platoon each, plus the usual

armored car troop. This made two similar squadrons...This organization is better than the one we have now; much more flexible, but I do not know if it is the best. Sadly needs another squadron. As acting regimental commander, I had no reserve except the armored car troop.

We marched back to Fort Knox from 12 to 16 June, the last leg being a night march from Vincennes.

In June 1934, it is safe to say that mechanized cavalry was established. The lessons of the Riley maneuvers rang out loud and clear to every cavalry officer who would listen. Major General Guy V. Henry, who as Chief of Cavalry fought against apathy and penury to give the mechanized cavalry a start, was now commander of the 7th Cavalry Brigade (Mechanized) and an enthusiastic cavalryman. Colonel Daniel Van Voorhis, who steadfastly and bitterly fought for an independent Mechanized Force and then for a balanced mechanized cavalry regiment, was in Hawaii. Brigadier General Julian R. Lindsey, the old horseman on the verge of retirement, who had come to recognize the fact that the cavalry role in battle could no longer be performed by horsemen, was on terminal leave. Lieutenant Colonel Adna Chaffee, who taught us that "the mission of cavalry is to fight" and how to do it, departed on 28 June for duty in the War Department budget section. I was left in command of the 1st Cavalry (Mechanized) until I, too, left on 12 July for Fort Leavenworth, almost the last member of the old Mechanized Force of 1930. I was replaced by Colonel Bruce Palmer. We were satisfied and enthused about the new officers. Little did we appreciate the opposition, as well as apathy, that remained to stifle the mechanization of more than a single cavalry brigade during the next six years and that would eventually force the creation of an independent armored force.

The Command and General Staff School

Leaving Fort Knox in July 1934 for a one-year tour as an instructor at Fort Leavenworth, I lost touch with the details of developments at Fort Knox but acquired an insight into the impact of mechanization upon the thinking of the Army as a



whole. I was able to take an active part in establishing mechanized cavalry doctrine at the Command and General Staff School.

Mechanization had been included in Leavenworth programs to a limited extent, but was confined primarily to infantry tanks and cavalry reconnaissance vehicles, with only brief consideration of mechanized cavalry units. The Riley maneuvers, portions of which were witnessed by the Leavenworth students and faculty, paved the way for an expansion of cavalry instruction, and the integration of mechanized cavalry up to brigade strength in problems of combined arms. Most of the cavalry officers on the staff eagerly accepted mechanization and worked in harmony to develop its potential. Our work included not only the mechanized brigade, but also the mechanized elements of the cavalry division and the horse regiments.

In addition to the normal conferences and problems, we prepared several publications on mechanized cavalry. One was a pamphlet entitled "Tactics and Technique of Mechanized Cavalry", that was coordinated with the War Department and approved for teaching in all service schools. This was a comprehensive document, including TO&Es for a mechanized cavalry regiment and sections on doctrine, marches, bivouacs, reconnaissance, security, attack, defense, special situations, and anti-aircraft defense. Another publication was entitled "Characteristics of Mechanized Cavalry Vehicles". This publication defined the basic requirements to be built into fighting vehicles as well as descriptions of current types. The introductory paragraph stated:

Mechanization is based on the organization of units of fighting vehicles, constructed on designs carefully prepared with a view to incorporating the maximum firepower combined with mobility and reasonable protection.

So much stress has recently been laid on mobility that it is interesting to note that from the earliest days of the Mechanized Force we considered firepower of the highest importance, without which mobility is of scant value.

We were called upon to comment on proposals for the reorganization of the cavalry division which had been drawn up by the 1st Cavalry Division, the Cavalry School, and the Chief of Cavalry. Among other things, we recommended a regimental headquarters for the administration, supply, and maintenance of the armored car and combat car squadrons, but not for their tactical employment or training. In other words, we did not visualize the regiment as a mechanized cavalry regiment for operational purposes.

Among the matters of importance, as recorded in my diary, were the following subjects:

Agreed with McBride (FA) to teach truck-drawn artillery for mechanized brigade this year. We both think self-propelled is the answer, but don't think it proper to teach it this year.

A memo to Gill (Inf.) on his protection of motor columns. I think he has laid the foundation for one of the best things I have seen this year. He is going to move troops fast.

New reference data for next year ...got truck rates stepped up from 8 to 20 miles per hour.

Combat car squadron of the cav-

At left, Sunday dinner for officers on bivouac in Tennessee was cooked on a mess truck, served on field tables.

At right, men of the mortar platoon wait at the Fort Knox motor pool for a parade to form up.



alry division...wants to use the squadron independently. I am opposed as long as we have no carrier support; should only be used in close cooperation with horse units.

Changes we are putting in the division this year — scout cars; cal. .50 machine guns; and combat car squadron. (This was for instructional purposes.)

Dismounted troops (infantry or cavalry) cannot advance against dismounted defenders unless the attackers are supported by artillery and tanks — so says McAndrew. (We did not dispute this.) We simply made the point that cavalry is able to maneuver the defenders out many times and thus permit the attacker to advance better than to employ combat cars in dribbles to assist each front-line unit.

We eventually succeeded in getting our fellow instructors to come around to our point of view on the use of fast tanks and combat cars.

An important milestone for mechanization was the publication on 5 April 1935, by the Adjutant General, of a letter to all commanders and schools which updated the directive of 1 May 1931, in which General MacArthur had ordered the breakup of the Mechanized Force and the development of mechanization by all arms. The new directive included:

The 1st Battalion, 68th Field Artillery, has been organized at Ft. Knox to provide the supporting artillery unit of the 7th Cav. Brig. (Mech)... the progressive training objectives for this Mechanized Force are prescribed as follows: 7th Cav. Brig. (Mech): Ability to perform the missions enumerated in 'General Principles to Govern in Extending Mechanization and Motorization throughout the Army'.

The missions of the cavalry arm now, as in the past, include the

following:

- a. Long distance strategic reconnaissance.
- b. Fighting for the control of the theater of reconnaissance.
- c. Seizing points of strategic and tactical importance.
- d. Tactical reconnaissance.
- e. Pursuit of the enemy or delay of his advance.
- f. As an exploitation force to take advantage of any break or weakened point in a hostile battle line. In this type of operation, the cavalry may act alone or in conjunction with other arms.
- g. As a part of a reserve to be used tactically or strategically. It is not difficult to visualize a reserve of the future, moving out in column from head to rear — Cavalry (Mechanized), units of the Tank Corps, Infantry, temporarily embussed, all elements to be able to move at uniform speed without noise. Field Artillery must be prepared to support such a force with units especially organized and equipped to accompany it.

An equally important function of the army is to preserve the cavalry spirit, an asset which, while intangible, is nonetheless a vital factor in combat.

The directive then goes on to prescribe unit training for the field artillery and combined training of the brigade and the artillery battalion. It should be remembered that the quotations above are General MacArthur's words written in 1931 and carried over in the new directive of 1935.

One of the most significant features of the directive of 5 April 1935 was that it specifically charged the Commanding General, V Corps Area, under the War Department "with the development of the 7th Cavalry Brigade (Mech) reinforced." We found later that this seriously restricted the Chief of

Cavalry in carrying out the responsibilities of his office with respect to the development of organization, equipment, and training. It is also interesting to note the use of the term "mechanized force" in the War Department letter, although it referred to the 7th Cavalry Brigade (Mechanized).

I was well-pleased with my tour at Leavenworth. I believe we made great progress in gaining acceptance of the rapidly increasing role of mechanization in all branches, but particularly in cavalry. We made no attempt to make a complete substitution of machine for horse, nor should we have at this time in view of the state of development of equipment. We did solidify the thought that mechanized cavalry regiments and larger mechanized cavalry units must be balanced and self-contained to accomplish all types of cavalry missions. I was both surprised and pleased at the high degree of cooperation among instructors of all branches. My greatest disappointment was our inability to have the close coordination with Fort Knox and Fort Bliss that we had with Fort Riley, chiefly due to administrative restrictions. Incidentally, I took an early morning ride almost every day before going to the office. There is no better place to think clearly than on a horse.

The War College

I left Fort Leavenworth for the Army War College in 1935. For me, the change was a revelation in contrasts. From daily involvement in tactics and troop-leading, I was thrust into a new world — the War Department General Staff. The big point I remembered from the first



A row of scout cars formed up at a maneuver bivouac.

lecture by General Hughes, the G3, was:

You can't expect the General Staff to act quickly; it is a deliberative body. New members often think they have some get-rich-quick scheme of suddenly improving the War Department, but they soon find out that there is a pretty sound reason for its methods.

He admitted that the G3 was weak on influencing tactical doctrine. He also mentioned mechanized cavalry just enough to show that he knew little about the subject.

A few days later, General Kromer gave a fine lecture on cavalry. Later in the day he invited me to his room at the club to discuss mechanized cavalry with Chaffee and him. The trouble seemed to be that the G3 was holding up the new TO&E, saying that the trains were too large and that cavalry should not have a mortar platoon.

A committee on new training developments gave its report on 25 September. The report had some good things to say about mechanization. The committee also recommended that a board under the Chief of Staff be formed to sit at Leavenworth and coordinate training doctrine. I personally felt that the job should belong to the G3 and that he should be required to do it instead of spending so much time on administration. If the G3 did not have the resources, the section should have been enlarged. The job was apparent and someone should have done it. This board eventually grew into the Army Ground Forces and later, the Continental Army Command.

During the year, I had considerable correspondence with Inspector General Walker and Charlie Unger who were at Fort Riley and sent me reports and problems for comment. We heard a number of lectures at

the War College indicating difficulties that would occur in producing sufficient, well-designed combat vehicles to meet the demands of mobilization. At the annual meeting of the Cavalry Association (now the Armor Association) that year, there were short talks, mostly about mechanization, together with some disparaging remarks by some of the "horsey" people.

My individual study paper for the year was assigned by the College. The question I had to answer was: "What should be the policy of the War Department with reference to the organization of a GHQ Mechanized Force?" I recommended a continuation of the development of mechanization by the several arms. I also recommended the establishment of a Headquarters, GHQ Mechanized Force, and assigning to it, from time to time, various mechanized units for experimentation and training so that on M-day, the Army would have a well-trained number of large mechanized units at the call of GHQ. They could then be used for independent operations, cooperation with the Air Corps, or reinforcement of an army or smaller unit. Although my paper was coolly received by the College, it is interesting to note how closely it resembled the eventual Armored Force, which simply extended the idea to create organized divisions from the mechanized units, not as a separate arm but as a GHQ (AGF) force.

Van Voorhis, now a brigadier general, completed his tour in Hawaii in the spring of 1936 and reported back to Fort Knox to command the 7th Cavalry Brigade (Mechanized). The brigade still lacked a second regiment. The plan to reactivate the 15th Cavalry fell through, so the new plan was to move the 13th Cavalry to Fort Knox and mechanize it.

During my year at the War College, it seemed that very little

progress in mechanization was being made. The Civil War battlefield tours by the War College were splendid, but placed emphasis chiefly on leadership. No analysis was made as to the results that might have occurred had current organization and equipment, particularly mechanization, been available to the commander at the time. As far as mechanization was concerned, my course at the War College taught me that only with a vigorous push from the War Department, initiated and spurred on by the Chief of Cavalry, could real progress be attained. There was meager evidence of such a push. The Cavalry Branch could not pay the price without giving up horse units to be mechanized, and this it was not willing to do.

(Ed. Note: This is the third part of a four-part serial on the evolution of mechanization within the United States Army.)



MAJOR GENERAL ROBERT W. GROW, whose career began as a horse cavalryman, became one of the pioneers in the mechanization of the U.S. Army. He was the first S3 of the Mechanized Force under Chaffee and Van Voorhis in the early 1930s and later commanded the 6th Armored Division in the European Theater during WWII. He retired as a major general in 1953 after serving as military attache in Moscow during the postwar years. General Grow died in November, 1985.

Captain Peter R. Mansoor and Kathy Cast Garth helped to prepare "The Ten Lean Years" manuscript for publication.



Cavalry troopers from Fort Knox demonstrate their equipment at the New York World's Fair in 1939. For many civilians, this was their first look at the new force and its tanks and motorcycles.

The Ten Lean Years

From the Mechanized Force (1930)
to the Armored Force (1940)

by Major General Robert W.
Grow, USA, Retired

(Ed. Note: This is the fourth and final part of a serial on the evolution of mechanization within the United States Army.)



In June 1936, I was assigned to the Supply and Budget Section of the Office of the Chief of Cavalry, a post which I would hold for four years. During my tour with the Chief of Cavalry, there was an undercurrent which came to the surface very briefly from time to time — a fundamental issue — which could be stated several ways but always boiled down to the question of whether or not Cavalry could, or would, furnish our Army's mobile mechanized combat units. Van Voorhis, Chaffee, and others pushed for the creation of an independent armored force. In my effort to be loyal to Cavalry and in the sincere belief that only Cavalry was capable of carrying out the role, I took every opportunity to urge the Chief of Cavalry to grasp mechanization as the only way, not only



Aerial photo taken in July 1939 reflects the emerging shape of modern Fort Knox. Housing is completed along Fourth and Fifth Avenues, foreground, and new brick barracks are being built for 13th Cav. and 68th FA.

to save our arm, but to give the Army its badly needed mobile combat forces.

On my first day in my new post, a conference on combat vehicles was held with my predecessor, Colonel Charles Scott, and Bruce Palmer, who flew in from Fort Knox. I was encouraged to find that their ideas on the military characteristics of combat vehicles coincided almost exactly with what we had proposed three, four, and even five years before. The next day we drove to Aberdeen to look over automotive equipment. We were decidedly unimpressed by the two-man tank, the T3, which we thought had no tacti-

cal value for cavalry.

At this stage we were still favorably inclined toward motorcycles. This feeling persisted through 1940, until the advent of the quarter-ton truck. One of my first actions was to expedite delivery of thirty-three of them to Fort Knox. In July, the Chief of Cavalry directed that the new cavalry division organization include a squadron of two armored car troops and a motorcycle troop. Another interesting piece of equipment arriving at Fort Knox at the same time were football helmets, the forerunner of continuing helmet development.

Research and development issues and budget debates occupied much of my time. The Ordnance Committee, with representatives of all branches, met weekly. At the 23 July meeting, a project to build a new experimental tank was approved. The infantry requested more armor and were willing to accept less speed. That proposition

sounded correct to me, since the infantry needed an infantry, not a cavalry, weapon. Later that day, Adna Chaffee, who worked in the War Department Budget Section, showed me the 1938 budget in which new mechanized equipment was authorized, but no replacements were provided. The next year, I was alert to see that a regular replacement program, on a percentage basis, was funded.

The horse-mechanized confrontation continued to crop up with ever-increasing regularity. On 29 July 1936 I noted in my diary.

Lininger (the new Assistant Commandant at Fort Riley) flew in for a conference with the Chief... He was told to coordinate all mechanized problems with Knox...

Sooner or later we must come to a showdown on a mechanized school. I recommended a school at Knox, with officers sent there for four years, the first year at school. But Riley

must teach tactics, too. Later I was to change my mind, fearing that a separate school at Fort Knox would only widen the split and bring about the loss of mechanization in the cavalry arm. I always favored a school at Fort Knox, but not an independent service school.

In August 1936, I attended the Fort Knox - Michigan maneuvers. It was my first visit back to Knox in two years. I had a fine reunion with many old friends and even had the opportunity to look over the new gold vault then under construction. The exercises started on 5 August with the largest assemblage of fighting vehicles ever made in the United States. The forces assembled near Elizabethtown included the 1st Cavalry (Mechanized), 201st Infantry (Motorized), the 68th FA, and the 19th FA. Some of the notes I recorded in my diary include:

Impressions: Combat cars cannot operate with closed ports. What to do? Half-tracks did well but due to wheels they are not fast across country. We cannot afford full track.

Four times the advance guard was met by surprise fire and each time piled up on its head, placing all half-tracks under fire while still mounted...Half-tracks are too fragile.

Part of my time at Fort Knox was also spent in researching equipment needs for the units there.

There were many conferences on equipment, radio, and vehicular design prior to the march to Michigan, which began on 11 August. After many conferences with Palmer and Scott, our report recommended a modified scout car (M2) be provided to the 13th Cavalry for the

reconnaissance troop, machine gun troop, command vehicles, and possibly for use as a mortar mount. This recommendation did away with armored cars and, temporarily, with half-tracks. We also recommended some thirty-odd modifications to the M1 combat car.

The Michigan "Allegan" maneuvers were confined largely to roads and I did not consider them particularly valuable to us, except as an equipment testing ground. I was greatly disturbed that the mechanized cavalry was continually broken up and used piecemeal, instead of as a coordinated force in the attack. "What will people think Cavalry is good for?" I wrote in my diary. "Apparently delay and harassing only." The critique after the maneuvers also pointed out the lack of antitank guns in our current organization.

The 13th Cavalry was reassigned to Fort Knox and the 7th Cavalry Brigade (Mechanized) and finally arrived from Fort Riley in September, 1936. Brigadier General Van Voorhis reported to Fort Knox and took command of the brigade, which now included the 1st and 13th Cavalry (Mechanized), with the 68th FA attached.

The variety of problems pertaining to mechanization that were handled in our section of the Chief of Cavalry's office during the Fall of 1936 are illustrated by the following notes taken from my diary:

Must try to get cost of armament reduced. For one scout car it is now over \$3000, which is entirely too much.

Land mines for Knox to try on old Christies.

Started a project for small bridges by engineers to help Cavalry across 20-30 ft. streams.

A paper to Knox on a device for training gunners and drivers without driving cars all over the reservation.

TAG disapproved our request for reconsideration of the priority schedule on production of combat cars per month so that the 13th would be able to take part in maneuvers next summer.

(After a conference with the G4): If the General Staff wants to argue and fight about each combat car from now on, I guess we will have to conform.

Sent letter to TAG asking for 12-1/2% replacements per year in all combat vehicles starting in FY 1939.

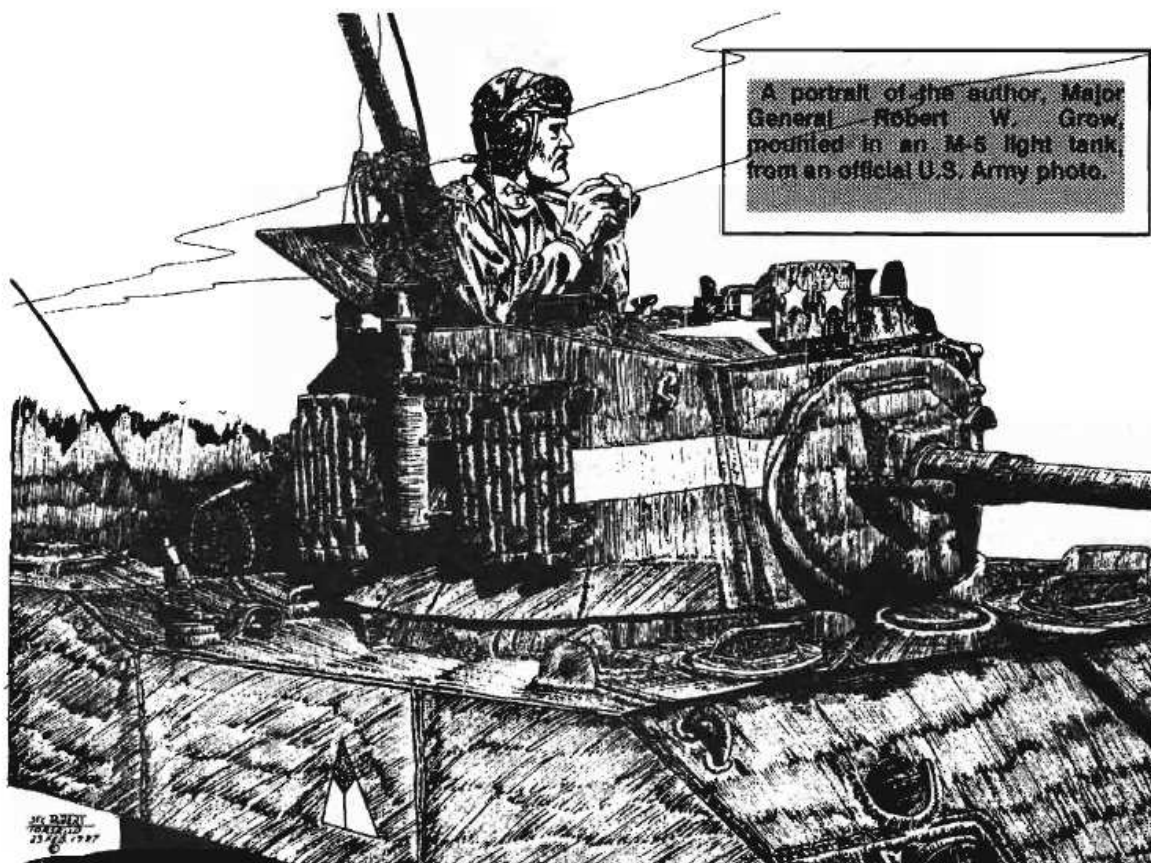
Drafted research program for Ordnance. Principal items: Amphibious and convertible combat car, smoke and grenade dischargers, antitank and antiaircraft guns, light mortar, individual wheel suspension on all wheeled vehicles...

Turned in a memo to the Chief advocating a mechanized division. We have to grab this now or the Cavalry will lose out. (The following day): Gen. Kromer accepted my recommendation for mechanized cavalry division as a starter and is going to write Bliss, Knox and Riley about it.

(On officers for Knox): Kromer expects to give them more officers but

M1 "combat cars" of Troop C, 1st Cavalry, at First Army maneuvers, Plattsburg, N.Y. in August, 1939.





will be unable to fill them in lieutenant grade. His policy is that all new lieutenants must serve a tour with horse cavalry and take the school course before they go to mechanized cavalry.

These and other issues kept us very busy until the end of the year. On 28 January 1937, General Kromer read us a report from the Cavalry School Board on the desirability of going after a mechanized cavalry division. I was overjoyed with the report, which not only recommended one but two mechanized divisions. I recorded in my diary:

They said to begin to talk 'millions', to let the folks on the Hill wake up to a real cavalry requirement... I don't think the present mechanized cavalry can beat the present horse cavalry but it soon can and there is no doubt of the way the wind is blowing. We will breed better iron horses and, in the meantime, we must build for the fu-

ture of Cavalry.

I was optimistic that the Cavalry Branch was finally riding the wave of the future.

After many meetings with the General Staff on division organization, all components of which had received the concurrence of the several arms and services, we met with General Hughes on 9 April 1937. He read us a memo from General Krueger (War Plans Department) opposing the proposed division on the grounds that "it was too big and too much of a fighting unit, whereas the mission of Cavalry was reconnaissance and security." I was afraid that the committee was going to take the teeth out of the cavalry division. I was more determined than ever, therefore, to push the mechanized division and ask for a commitment to form at least two of them. In a memo to the Executive of the Committee, Colonel Miller, on 19 April, I stated, "The only hope for Cavalry

is to get astride the iron horse and dig in our spurs."

In May I attended tests at Aberdeen of German, French, and American antitank guns. There was general agreement that the gun should be 37mm, weigh eight-hundred to one-thousand pounds, with a penetration of one inch at eight-hundred yards. I was surprised that the Infantry did not want more penetration. Our interest in the Cavalry Branch was in mounting the gun on a vehicle. With souped-up ammunition and a forty-five inch barrel, the best penetration we could get with the .50 caliber machine gun at the time was one and one-quarter inches at one-hundred yards. We needed something heavier.

General Van Voorhis had repeatedly expressed his preference for a small two-regiment mechanized cavalry division. When he came to Washington in June 1937 we went round and round on both the division and regimental organiza-

tion. General Kromer supported a three regiment division with stronger regiments, but he could not sway Van Voorhis. Van Voorhis and I were on very close personal terms and finally one evening after dinner at my quarters he told me that my division "was OK, but that Cavalry couldn't handle that much." I thought then, and it was confirmed later, that he sincerely felt that the Cavalry Branch would never accept and really support mechanization and that a separate mechanized force under the War Department would be required.

We constantly studied all the attache reports. I felt that we were way ahead of the French and, in the doctrine of employment, ahead of all except, in some respects, the Germans. Shortage of funds for both development and procurement kept us in a constant struggle with both the General Staff and the services, often for a single vehicle or a few rounds of ammunition for testing. There was progress, however, and equipment was developed and improved. Fortunately, excellent co-operation existed between Fort Knox, Fort Riley, and the supply services, with the Chief of Cavalry's office being the middleman as well as the initiator in many cases.

General Kromer's address to the War College on 29 September 1937 brilliantly expressed the thoughts of our office. It included a strong statement as to the combat mission of cavalry. "Cavalry welcomes mechanization," he stated, "and will abandon the horse as fast as machines prove their worth and can be supplied." General DeWitt and Colonel Gruber said that General Kromer "hit the nail on the head" when he stated that as opposed to the European armies of the day, the cavalry of our army was not only designed for combat, but was the only more mobile combat arm. I was quite taken back, therefore, when a few days later I received a study by Colonel Gruber which recommended that a separate mechanized force be established. I felt that any separate mechanized force would result eventually in a separate arm and the consequent

loss of the Cavalry Branch. There seems to be no question but that the fate of Cavalry as a combat arm was in jeopardy and that General Kromer realized it and was trying desperately to rally support for mechanization, even at the expense



of horse cavalry, whose advocates stubbornly refused to give up.

There were many conferences on the "Gruber Study" on the development of a separate mechanized force. A revised edition of the study came to the Office of the Chief of Cavalry with a note by General Craig, Chief of Staff, which read in part:

Cavalry and Mechanized Cavalry are entirely different as to tactical employment.

General Kromer sent in a nonconcurrency on the study and took occasion to demand an early decision "on horse and mechanized divisions." Colonel Gruber then sent General Kromer a copy of his proposed War Department policy and doctrine of mechanization. I spent all day preparing comments on it:

I want to emphasize the fact that mechanized cavalry is cavalry and not something foreign to cavalry. His (Colonel Gruber's) memo discounted defensive and holding power while failing to emphasize offensive power — more or less a European or reconnaissance form of Cavalry... drafted a revision which I have little hopes of going through but I firmly believe in it... since the momentous decision was made at Eustis in '31. It

is the life line of Cavalry.

Gruber came in each of the two following days and discussed his memo with the whole office. He agreed to change it slightly, making it more palatable to us.

During my two years with General Kromer, who retired on 25 March

"The next Chief of Cavalry, General Herr, was not as willing to support mechanization at the expense of horse cavalry units..."

1938, I could sense the development of an ever-growing feeling that the problem of mechanization was too big for the Cavalry arm. General Kromer had been won over and possibly could have made the Cavalry Branch the "Mechanized Arm," but he lacked support from the General Staff and from some senior officers in his own branch. His tour expired at a critical time. The next Chief of Cavalry, General Herr, was not as willing to support mechanization at the expense of horse cavalry units. His attitude concerning mechanization was to prove fatal to Cavalry as a branch.

Major General John K. Herr was "inaugurated" as the Chief of Cavalry on 26 March 1938. From the beginning, General Herr expressed himself for one Cavalry. It turned out that this meant that he accepted mechanization in Cavalry, but not at the expense of losing or converting any horse units. General Herr brought Major Gilbert Cheves with him from Fort Bliss to be my assistant. It was generally thought in the office that Herr had brought him in to "balance" our office since Cheves had been "indoctrinated" in horse cavalry. It proved to be an idea arrangement as far as I was concerned, for Cheves was very familiar with the horse problems and very sympathetic to mechanization.

**"...General Chaffee came to Washington in late November
with a complete TO&E for a mechanized cavalry division..."**

In April we received a directive from the War Department to prepare TO&Es for use "in planning and instruction" for a mechanized division consisting of a HQ and HQ Troop, Reconnaissance and Support Squadron, a brigade of three mechanized cavalry regiments, and supporting troops. It is interesting to note (1) that the Chief of Cavalry and not Fort Knox was asked to do the job and (2) that it was called a "Mechanized Division" and not a "Cavalry Division." We were also working on a revision of TO&Es for the mechanized cavalry regiment. Without increasing personnel strength, we cut the head and tail, charging the division with distant reconnaissance and supply and thereby increasing the combat strength of the regiment.

General Herr attended the 1st Cavalry Division maneuvers in May and, on his return, approved the TO&Es of the mechanized cavalry division that Karl Bradford and I had worked on. General Herr added that he would like to see the division exist, but that the War Department "would take a single horse soldier away over his dead body." He wanted a mechanized cavalry unit at Fort Riley, but I did not see how he could get it without giving up a horse unit.

The Office of the Chief of Cavalry had little direct contact with Fort Leavenworth, but Lieutenant Colonel R. E. McQuillin, an old Fort Riley friend, had written me several times to help him on organization questions for instruction at the Command and General Staff School. I told him to stop teaching "those funny mechanized divisions" until the War Department put out an official TO&E for one. In the meantime, he could use the brigade that was actually in existence. A week later, I received a letter which stated in part that McQuillin requested that the organization of the mechanized cavalry division developed by the C&GSS be discarded

in favor of the one proposed by our office.

On 6 June 1938, the War Department relieved the Commanding General, V Corps Area, of responsibility for the development of mechanized cavalry and restored it to the Chief of Cavalry. This revoked part of the directive of 5 April 1935. The V Corps Area continued to have administrative and operational control of the brigade. This was splendid news to us as it put the development of mechanization strictly under the Chief of Cavalry.

General Herr's attitude in July 1938 is illustrated by two entries from my diary:

The Chief wants to reopen the question of the saber, which was abolished in 1934... Will line up the necessary directive to the Cavalry Board to reopen the requirement and submit military characteristics.

Conference with Herr, Crittenberger and Bradford on the mechanized cavalry division... Herr wants a mechanized division, but he doesn't want to pay for it by converting any horse units. He will have to... He wants only one school - hence he wants mechanized cavalry at Riley... It's all still in the air.

General Herr's speech to the War College on 19 September 1938, however, was more accommodating. He emphasized: (1) that cavalry must be used in mass; (2) that reconnaissance is a secondary mission, but that it was necessary to have reconnaissance squadrons at division and corps level; (3) that horse units and mechanized units are complementary and should be used together; and (4) that in strategic reconnaissance, mechanized cavalry should be in the cavalry reserve, except for its own reconnaissance elements. The speech went over well.

Summarizing our projects in the fall of 1938, there were a list of

horse needs, then a progressive program for the Cavalry Branch to include the organization of a cavalry corps of three horse and one mechanized divisions, replacement personnel carriers for the 1st Cavalry (Mechanized), and improvements or redesign of the combat car for 1940. Van Voorhis was promoted to major general and given command of the V Corps area on 1 October 1938. Adna Chaffee was promoted to brigadier general and given command of the 7th Cavalry Brigade (Mechanized) at Fort Knox. Van Voorhis and Chaffee steadfastly opposed the transfer of mechanized units to Fort Riley. General Herr, after observing the maneuvers of the 7th Cavalry Brigade (Mechanized) that fall at Fort Riley, told me that he definitely wanted a combat car squadron at Fort Riley.

On 7 October General Herr and I had a long conference with the G3 Department (Generals Beck, Gruber, Grimes, and Ingels) on the proposed mechanized cavalry division, the proposed mechanized squadron at Fort Riley and related problems. All the cards were put on the table as both parties talked freely about their concerns. The G3 agreed to take prompt action on the mechanized cavalry division. This conference was followed by a trip with Herr, Bradford, and Cheves to Aberdeen for more vehicle and weapons demonstrations. I recommended that we get a troop of convertible combat cars in 1940 to keep the idea alive and to develop it.

General Chaffee came to Washington in late November with a complete TO&E for a mechanized cavalry division. It was similar to the TO&E proposed by Van Voorhis, but perhaps a little better. Chaffee proposed three combat car squadrons of two troops each in the mechanized regiments. I did not think the TO&E was as sound tactically as the one we made up the previous winter, but I raised no objections since it was better than the

MG George S. Patton, at left, commanding the 2d AD, confers with then-LTC Grow during maneuvers at Manchester, Tennessee, in 1941.



TO&E that we had at the moment.

As 1939 opened, it was apparent that the Army was due for augmentation. On 5 January, Harmon of G4 told me:

The Chief should put in a letter asking for expansion of the 7th Cavalry Brigade to a division at once, not await approval of TO&Es... the whole thing is in a muddle now due to personal requests by Van Voorhis and Chaffee to the Chief of Staff.

Following this conversation I drafted a short letter to TAG asking for approval of expansion of the 7th Cavalry Brigade (Mechanized) to a division. Crittenger told Herr that this was not necessary, that "the Staff has all it needs and will give us what we want." Maybe so, but at this time, there was not one cent for mechanized cavalry in any program. Cheves had worked up comparative initial equipment costs as of 1938, which showed a mechanized cavalry regiment to cost \$2,112,000 and a horse regiment \$394,000. Unless the mechanized cavalry division project was approved on paper, we would never get the money we needed to complete it.

A month later, Harmon called me to tell me that we could put in our request for equipment for the mechanized cavalry division for FY 1941. I replied:

Where are the men coming from? Herr won't agree to converting and there is no chance to get them from outside the Cavalry... He can get equipment for a mechanized division and a regiment at Riley... but he can't get more men... We must go ahead with mechanization or we stand still, which is a step backwards... The decision must be made soon.

Time was running out. If we did not make a decision to support a

mechanized cavalry division from our existing assets soon, the decision would be made by someone else. On 25 February 1939, the Chief of Cavalry approved the plan to include the mechanized division in estimates for FY 1941.

One of the questions that kept coming up was whether the mechanized cavalry school should be kept separate at Fort Knox or whether it should be kept as a part of the Cavalry School at Fort Riley. I held the view that we should support only one Cavalry School, which should not be a horse school but a cavalry school. To this end, there must be mechanized school troops at Fort Riley as well as a mechanized cavalry division at Fort Knox. Both Van Voorhis and Chaffee, however, opposed mechanized schooling at Fort Riley. Since both were my very close friends from the earliest days of the Mechanized Force at Fort Eustis, it was apparent to me from many private discussions (although never positively stated in so many words) that they were convinced that the Cavalry Arm (more specifically the Chief of Cavalry) could not, or would not, support the massive expansion of

mechanization that events in Europe indicated we would need. The situation continued to become more critical until the final break in June 1940. In the spring of 1939, however, there was still time for Cavalry to save itself.

The time was ripe for the Chief of Cavalry to take action to form a mechanized division. I met Bennie Grimes on the bridge path at the end of April and he told me that "the G3 is raring to go on the mechanized division if Herr will only get in his recommendations." The tentative directive for FY 1941 came out on 2 May. It included the expansion of the 7th Cavalry Brigade (Mechanized), but the Chief of Staff disapproved this action on 14 May. Any expansion was to take the form of another brigade. The Rearmament and Reequipment Program for FY 1941 came through officially on 5 July 1939. We got everything we asked for, an almost unprecedented action.

I took a trip to Fort Knox in July. Chaffee told me that if the Chief of Cavalry could not get personnel for mechanized expansion, he would take steps to force some conversions. He took me on a tour of the

post, and it was amazing to see the transformation that had taken place since I first saw the place in 1930. During the visit I also had a long talk with Mr. Jones, engineer of the White Company, on our need for a half-track with certain characteristics. He promised to go to work on the project at once. The eventual result of this conversation was the half-track used by the Armored Force in WWII. In a final talk with General Chaffee before I left Fort Knox, he frankly stated that he was going to have a division and was going to get the necessary men, even if they had to come from horse units. He was going to have General Marshall (Chief of Staff designate) visit Fort Knox after the Plattsburg maneuvers and "go to the mat with him."

A few days after my return from Fort Knox, General Herr told me that he was willing to take sufficient personnel from the 2d Cavalry to create a mechanized cavalry squadron at Fort Riley. Heretofore, he had stood firm on his vow not to give up a single horse soldier. *"I believe this day can be marked as the beginning of the mechanization of Johnny Herr,"* I wrote in my diary that evening.

The effect of the German invasion of Poland was showing up by mid-September. I recorded in my diary:

I think the Chief should jump on the mechanized band wagon with both feet...the Chief will not reverse his stand on horse units and offer to convert any unless he can get more horses, consequently we get nothing... I will not be surprised to see a movement to take mechanization away from Cavalry.

The Chief's lecture to the War College on 19 September 1939, however, indicated his readiness to expand mechanization. The class was with him and asked more questions than I had ever heard at the College. General Herr indicated that there was no conflict between horse and mechanized cavalry. He emphasized that the German

mechanization in Poland was purely cavalry and could be carried out by our mechanized cavalry.

Confirming his War College lecture, General Herr told me on 21 September that he is going all the way in mechanization as being the best thing for Cavalry. He wants one and, if possible, two "Panzer" divisions organized "vertically" instead of our current organization. He feels the time is ripe now to definitely nail down mechanization for Cavalry... The Chief has finally gone all the way over to mechanization. When he went, he went fast. He is afraid of Chaffee, afraid Chaffee will take advantage of the looked-for expansion of mechanization to go for a separate corps. He has asked for Chaffee to come here next week for a conference — to get together and keep all mechanization in Cavalry.

It was much too late!

General Chaffee gave his War College lecture on 29 September 1939. I recorded in my diary:

He gave the best exposition on mechanized cavalry I have heard. He said it was Cavalry and not Infantry, although he did not go so far as to say that it should not be a separate arm. He said it should be expanded to four mechanized cavalry divisions; that regular army cavalry officers should lead it with National Guard and ORC taking over the horse cavalry (or what is left of it). He didn't mince any words as to what he thought of mechanized versus horse. He did not mention any conversion in exact words, but he left no doubt that he meant we should convert our regular cavalry and depend on the National Guard for horse units.

Chaffee followed up with a letter to TAG, through the V Corps Area, and referred to our office for comment. The letter recommended the mechanization of all regular cavalry, except a small nucleus, and relying on the National Guard and Reserves for horse units. Van Voorhis

endorsed the letter. General Herr asked me to draft our endorsement. I fully agreed to the plan to expand mechanization, but not to take it away from the Chief of Cavalry, which could only result in a separate Arm. This was the most open and bitter difference that had come up between the Chief of Cavalry and Fort Knox.

There was no doubt in my mind at this time that a separation of mechanization from Cavalry was in the cards. General Herr put in a memo to the Chief of Staff asking for four "Panzer" divisions. I agreed, except for Chaffee's plan to train all cadres at Fort Knox. In that case, we would have two cavalry schools, and one of them would not be under the Chief of Cavalry. I considered that point vital. It was a strong entering wedge for a separate arm. The Chief overruled me.

General Herr met with General Lynch, the Chief of Infantry, on 17 October 1939. General Lynch stated that he did not want any "Panzer" divisions, although he was having trouble with his tank people on that point. Herr suggested that Cavalry take everything under ten tons and Infantry everything over ten tons. I agreed, except as to fixing an inelastic weight limit. This conversation left the way open, however, for Cavalry to become the driving force behind mechanization.

On 10 November Fort Knox reported unfavorably on the convertible combat car T7 and I recommended that Ordnance drop the project for a convertible. The most important radio conference we ever held began at Fort Knox on 13 November with representatives of Cavalry, Infantry, Field Artillery, Signal Corps, the G4, and others in attendance. For the first time we had a demonstration of frequency modulation (FM) radio. Demonstrations, a field exercise, and conferences lasted five days and resulted in agreement on basic principles, requirements, and characteristics. Our findings were reflected in the radios used by the Army during WWII.

Secretary of War Henry L. Stimson reviews the 2d Bn, 1st Armored Regiment at Fort Knox, September, 1941.



My first talk with the Chief of Cavalry on mechanization in 1940 was a disappointment. General Herr did not want another horseman to be dismounted. He was to be disappointed, however, for in late March plans were announced for the 14th Cavalry at Des Moines to be broken up and converted to mechanized cavalry at Fort Knox and Fort Riley. This was a blow to the Chief who had been ignored by General Marshall when the decision was made.

Germany's invasion of Holland, Belgium, and France on 10 May 1940 had immediate repercussions. I noted in my diary:

Business is picking up. Looks like Congress is going to set up more money for equipment so the great general staff is all in a dither. Our recommendations have long since been in, but of course we have to repeat them. Apparently they can never find anything in the file.

(14 May) The President submitted an emergency defense bill to Congress today... I took the bull by the horns on decisions (the Chief was away) and agreed to the modernization program... Invitations are to go out right away. Enough for the whole Protective Mobilization Plan.

All we needed now were personnel to man the new mechanized formations.

I said goodbye to General Herr on 25 May 1940 and had a long talk with him. He told me that he had put in a memo to the Chief of Staff asking for the 1st Cavalry Division at full strength, two corps cavalry

regiments, and two mechanized cavalry brigades. For the latter he agreed to sacrifice the rest of the horse units, retaining only enough to fill up the 1st Cavalry Division. In this way, the 11th and 14th Cavalry Regiments would be mechanized. I felt this was the best move he had made since he had been in office, but unfortunately it was much too late.

In late May, I left Washington on a thirty-day leave and traveled to San Francisco by way of western Canada. I was completely out of touch with events. As I was about to drive my car on board a transport ship at Fort Mason on 26 June 1940, however, a radio message arrived cancelling my orders. I wired Cheves for information. His reply stated that I would probably go to Mechanization Headquarters at Fort Knox or Fort Benning. *"It looks like the separate mechanized force boys have won the day,"* I noted in my diary.

The "Ten Lean Years" had come to an end. The Armored Force had been created, not because a new arm was necessary, but because Cavalry did not grasp the opportunities that were available. The Chief of Cavalry did not submit the memo he had shown to me on 25 May, in which he agreed to convert horse units to mechanized cavalry. Instead, he staunchly refused to give up a horse unit. So he lost it all.

The new force was still mechanized cavalry, so our ten years of work had not been wasted. But it had a new name — Armored Force — and a new Chief: Adna Chaffee.

Editor's Note: The many personal stories included in "The Ten Lean Years" resulted from the author's extensive use of his diary as a primary source document.

MAJOR GENERAL

ROBERT W. GROW, whose career began as a horse cavalryman, became one of the pioneers in the mechanization of the U.S. Army. He was the first S3 of the Mechanized Force under Chaffee and Van Voorhis in the early 1930s and later commanded the 6th Armored Division in the European Theater during WWII. He retired as a major general in 1953 after serving as military attache in Moscow during the postwar years. General Grow died in November, 1985.

Captain Peter R. Mansoor and Kathy Cast Garth helped to prepare "The Ten Lean Years" manuscript for publication.